AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE OF PAGES
	1 237

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. *(If applicable)*
000010	11/20/2009		98580

6. ISSUED BY	CODE	7. ADMINISTERED BY *(If other than Item 6)*	CODE
NASA/John F. Kennedy Space Center Office of Procurement MAIL CODE OP KENNEDY SPACE CENTER FL 32899	KSC	NASA/Kennedy Space Center Office of Procurement MAIL CODE OP KENNEDY SPACE CENTER FL 32899	KSC

8. NAME AND ADDRESS OF CONTRACTOR *(No., street, county, State and ZIP Code)*		9A. AMENDMENT OF SOLICITATION NO.
	(x)	NNK09308380R
	x	9B. DATED *(SEE ITEM 11)* 09/11/2009
		10A. MODIFICATION OF CONTRACT/ORDER NO.
		10B. DATED *(SEE ITEM 13)*
CODE / FACILITY CODE		

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☒ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers ☐ is extended. ☒ is not extended.

Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods: (a) By completing Items 8 and 15, and returning 0 copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA *(If required)*

13. THIS ITEM ONLY APPLIES TO MODIFICATION OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

CHECK ONE	
	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: *(Specify authority)* THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES *(such as changes in paying office, appropriation date, etc.)* SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
	D. OTHER *(Specify type of modification and authority)*

E. IMPORTANT: Contractor ☐ is not. ☐ is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION *(Organized by UCF section headings, including solicitation/contract subject matter where feasible.)*

Demolition of the Fixed Service Structure FSS and Rotating Service Structure RSS, Launch Complex 39B at the John F. Kennedy Space Center, Florida.

1. This amendment is issued for the following changes to Solicitation NNK09308380R:

Continued on page 2.

INCO TERMS 2: DESTINATION

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER *(Type or print)*		16A. NAME AND TITLE OF CONTRACTING OFFICER *(Type or print)*	
		Richard M. Johanboeke	
15B. CONTRACTOR/OFFEROR _____ *(Signature of person authorized to sign)*	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA _____ *(Signature of Contracting Officer)*	16C. DATE SIGNED

1. This amendment is issued for the following changes to Specification 222WCM00001:

Section 02 41 00, Delete Paragraph 1.6.5 Utility Service.
Section 02 41 00, Delete Paragraph 1.9 Relocations.
Section 02 41 00, Delete Paragraph 3.1.2.1 General Requirement.
Section 02 41 00, Delete Paragraph 3.1.2.2 Disconnecting Existing Utilities.
Section 02 41 00, Delete first sentence of Paragraph 3.1.4 Structural Steel.
Section 02 41 00, Delete Paragraph 3.1.8.2 Electrical Devices.
Section 02 41 00, Delete Paragraph 3.1.8.3 Wiring Ducts or Troughs.
Section 02 41 00, Delete Paragraph 3.2.1 Title to Materials and Replace with the following:

3.2.1 Title to Materials

Unsalvageable and non-recyclable materials shall be disposed of in accordance with Article J-C-17 of the solicitation, Schwartz Road Landfill Operations and specification section 02 41 00, Subparagraph 3.2.7. All non salvageable materials not disposed of at the Schwartz Road Landfill, and non salvageable material that the contractor chooses not to dispose of at the Schwartz Road Landfill shall become the property of the contractor and disposed of according to local, state, and federal regulations. All salvageable materials, except for materials to be turned over to the Government, shall become the property of the contractor and shall be removed from Government property. The Government will not be responsible for the condition or loss of, or damage to, salvageable material after contract award. Showing for sale or selling materials and equipment on site is prohibited.

Section 02 41 00, Delete Paragraph 3.2.3 Reuse of Materials and Equipment.
Section 02 41 00, Delete Paragraph 3.2.6 Disposal of Ozone Depleting Substance (ODS).
Section 02 41 00, Delete Paragraph 3.2.6.1 Fire Suppression Containers.

2. This amendment is issued for the following changes to Drawings 222W2200001:

Drawing 222W2200001, Sheet D1, FLAG NOTES, Change Flag Note 6 to read: Silt Fence.
Drawing 222W2200001, Sheet EN1, ENVIRONMENTAL NOTES, Note 3, Delete the first sentence.
Drawing 222W2200001, Sheet V3, DEMOLITION NOTES, Note 3 , Delete in its entirety and Replace with the following:

> Not all utilities may be shown in the drawings. The contractor shall be cognizant of above ground obstructions/utilities that affect his work. Excavations shall be performed in accordance with Article 3.7 of the solicitation.

Drawing 222W2200001, Sheet V3, DEMOLITION NOTES, Note 45, Delete in its entirety.

3. The attachment titled, “Limited Asbestos Inspection for the Demolition of Launch COMPLEX PAD 39B AT JOHN F. KENNEDY SPACE CENTER, FLORIDA, June 2009” is incorporated into and made a part of the solicitation.

4. This modification is issued to provide the Government’s response to questions / comments received in accordance with Solicitation Section L.16, Communication Regarding the Solicitation. The questions and responses are as follows:

1.) REFERENCE: Specification 02 41 00, 3.1.2.2 & Drawing V3, Sheet 3
QUESTION: Demolition Note 5 on Sheet 3 Indicates In part, “Contractor shall not commence demolition work until all utilities have been verified to be disconnected and isolated”. Question: With the absence of Power Distribution Drawing (as referenced in SECTION 3.1.2.2), is it proper to imply; power to the facility will be terminated at the source (sub-station) by KICS Contractors then verified by the General Contractor?
ANSWER: Yes; Per Note 5 on sheet 3, demolition contractor shall not commence work until he verifies and is satisfied that all utilities have been disconnected and isolated. Power to the facility will be terminated at the source by the KICS contractor.

2.) REFERENCE: Specification 02 41 00, 3.1.2.2 & Drawing V3, Sheet 3
QUESTION: Note 5 indicates in part, “KICS Contractors will relocate communication lines and equipment”. Question: In the absence of Fire Alarm Center or Firewater drawings is it proper to imply, that these safety devices/ utilities will be isolated/ terminated at the source by KICS Contractors prior to General Contractor demolition activities?
ANSWER: Yes, the demolition Contractor is only responsible for verifying that all utilities have been disconnected and isolated. The safety devices / utilities will be isolated / terminated at the source by the KICS Contractor.

3.) REFERENCE: Specification 02 41 00, 1.6.1 & L-13 Safety & Health Plan
QUESTION: Specification 02 41 00 indicates high intensity lights on temporary structures over 100 feet above ground level in accordance with FAA AC 70/7460-1. Question: With the shuttle landing facility and skid strip in close proximity, is the contractor required to file FAA Form 7460-1 and NOTAMs with the Air Traffic Controllers? Or is this NASA’s responsibility?
ANSWER: Coordination with FAA is NASA’s responsibility.

4.) REFERENCE: Sheet V3, Demolition Note #12; Spec 02 41 00, parts 3.2.3 and 3.2.4

QUESTION: In reviewing the drawings and specifications, it does not appear that selective demolition is required or that specific items have been identified for salvage and reuse, other than general recycled metals. Please clarify that this is the case or provide a list identifying equipment that is to be delivered to the reutilization, recycling and marketing facility (RRMF) as stated on page 83 of the specifications.
ANSWER: Selective demolition is required in the Emergency Egress slidewire landing area. Reference Sheet D1, Flag note 2 – salvage existing metal lightpost and light fixtures and turn over to the government for reuse. No selective demolition is required in the FSS & RSS.

5.) REFERENCE: Prebid Meeting
QUESTION: Will it be possible to view the RSS in the full open position at Friday's meeting?
ANSWER: RSS was in the open position for the second site visit.

6.) REFERENCE: Specifications
QUESTION: If a tower/lattice crane is used it will have to be bolted to the slab. Is this an acceptable method for dismantlement?
ANSWER: No. Reference solicitation section J-A-7 lifting and rigging plan; Drawing 222W2200001, sheet S-3 pad surface allowable loads for NASA lifting and rigging requirements. No bolting or slab penetrations will be permitted.

7.) REFERENCE: Section L.18 (b) & Appendix 1
QUESTION: The above referenced section allows the offer to submit performance data on past and current contracts that proposed contractor key personnel have participated in however Appendix 1 appears to be applicable to the offer, company, only, not an individual. Will there be an addition evaluation form for “personnel” past performance questionnaire or will the existing form be revised?
ANSWER: Use the existing form, revising as appropriate.

8.) REFERENCE: NA
QUESTION: How many days may be lost to launches occurring at KSC?
ANSWER: All contract downtime requirements are stated in Section F of the solicitation, Article F.4 Downtime and Excavation Holds and Hauling Restrictions.

9.) REFERENCE: NA
QUESTION: What is NASA’s policy regarding electrical storms?
ANSWER: See KNPR 8715.3 as referenced in the solicitation Section H.3, KSC 52.242-90, Controls Applicable to Contractor’s Activities (Aug 2009)
10.) REFERENCE: NA

QUESTION: How will the RSS be positioned at the time of shutdown?
ANSWER: RSS will be anchored and secured in the open position.

11.) REFERENCE: NA
QUESTION: Reference: Sheet S1, Flag Notes, Last Section - Will the Orbiter Access Arm be removed by other's or the Contractor, it appears to conflict with the specifications.
ANSWER: The Orbiter Access Arm will be removed by others per Drawing 222W2200001, Sheet S1, hexagon 1.

12.) REFERENCE: NA
QUESTION: Will additional site inspections be permitted? The first walkthrough only allowed for three visitors, as the prime contractor on such a large project we will need to get pricing from several key subcontractors that would benefit from a site inspection. In addition we could also use it to verify preliminary pricing and to better evaluate other issues not considered during our initial site walk. Several site inspections of a job of this magnitude are not uncommon.
ANSWER: Yes, an additional walk down was conducted on Friday, October 2, 2009

13.) REFERENCE: NA
QUESTION: According to amendment 000001 note six (6) of the Environmental notes of Drawing 222W2200001, EN1, Sheet 13 should be deleted in its entirety. Because of this should the portion of Note 3 on the same sheet be deleted? Specifically the portion that reads "Painted metals shall not be recycled unless they are proven not to be PCB bulk product waste in accordance with 40CFR 761." With the note six deletion, why would this be necessary and what would we test?
ANSWER: Yes, delete the first sentence of Note 3.

14.) REFERENCE: NA
QUESTION: Note 9 on the same Drawing 222W2200001, EN1, Sheet 13 says "Contractor shall avoid hot work on painted/ coated metal surfaces, if hot work is necessary. The contractor shall provide respiratory protection in accordance with 29 CFR 1910.134." Along with rigging and picking operations, hot work will likely be the dominant most cost effective method used during the removal of the requested structures. Providing respiratory protection and abiding by the regulatory requirements is standard operating procedure for this type of demolition/dismantling project. Will the contractor be the deciding party in determining when hot work will be necessary?
ANSWER: Yes, the contractor will be the deciding party and required to follow all applicable regulatory requirements.

15.) REFERENCE: NA
QUESTION: What is the exact location of pad terminal connection room (PTCR) on a drawing and its relation to FSS?
ANSWER: The FSS and the PTCR roof are displayed on Drawing 222W2200001, sheet S3. Arrows to the pad terminal connection room are also shown on Sheet S3.

16.) REFERENCE: NA
QUESTION: Are Structural drawings of PTCR available?
ANSWER: No.

17.) REFERENCE: NA
QUESTION: Drawing showing existing utilities to be disconnected and at what locations and what is to remain; to include depth of utilities and location of utility tunnels?
ANSWER: Utilities will be disconnected prior to FSS and RSS demolition by others. Contractor is required to verify disconnected and isolated utilities per Drawing 222W2200001, sheet V3, Note 5.

18.) REFERENCE: NA
QUESTION: Are structural drawings available of all facilities?
ANSWER: All applicable structural drawings have been included in the solicitation.

19.) REFERENCE: NA
QUESTION: Location of landfill for PCB contaminated steel?
ANSWER: No PCB contaminated steel is expected in this project. The location of the landfill referenced in the solicitation, Articles J-C-17 through J-C-19, is approximately 7.5 miles from Pad B.

20.) REFERENCE: L. 13 NFS 1852.223-73 Safety and Health Plan (NOV 2004) & L.17 (c) (5) Two (2) copies of your Safety and Health Plan in accordance with Article L.13
QUESTION: Please clarify if the Safety & Health Plan is required to be submitted with bid proposal or another specified time?
ANSWER: The Safety and Health Plan required in article L.13 shall be submitted with the proposal in accordance with Article L.17 of the solicitation.

21.) REFERENCE: LAUNCH COMPLEX 39B, DEMOLITION OF FSS/RSS @ LAUNCH COMPLEX 39B DEMOLITION PACKAGE; DWG. NO. 222W2200001 Sheets 18 & 19
QUESTION: Can NASA rotate and spot the RSS in a specific location as specified by the contractor prior to demolition?
ANSWER: No. The RSS will be anchored and secured in the open position

22.) REFERENCE: N/A
QUESTION: Is there a truck scale onsite available to the contractor for use during the project to weigh outgoing materials? If so, what is the location and mileage from Launch Complex 39B.
ANSWER: No.

23.) REFERENCE: LAUNCH COMPLEX 39B, DEMOLITION OF FSS/RSS @ LAUNCH COMPLEX 39B DEMOLITION PACKAGE; DWG. NO. 222W2200001 Sheets 14 PAINT SCHEDULES
QUESTION: The PCB Paint Schedule lists the concentration (PPM) as U which states analyte included but not detected. Does this confirm that the steel tested can be salvaged by the contractor and not landfilled? Does the schedule include all of the main structural steel elements in the FSS/RSS?
ANSWER: Yes; the steel tested can be salvaged by the contractor. Yes; the schedule includes all of the main structural elements in the FSS/RSS.

24.) REFERENCE: N/A
QUESTION: Is there a schedule of any gas or liquids that must be removed and disposed of by the contractor out of any FSS/RSS equipment that NASA will not remove and clean prior to demolition?
ANSWER: All gasses and liquids will be removed and disposed by NASA. Equipment with non-hazardous petroleum, oil or lubricants may contain residuals.

25.) REFERENCE: GENERAL
QUESTION: Due to limited access to the facility during the bid we are unable to accurately determine quantities for salvageable metals, i.e., steel, copper, silver, gold, platinum that may exist at launch pad 39B. Are government sources available for a more accurate determination of the quantities of these materials?
ANSWER: No.

26.) REFERENCE: Contract Dwg SHEET 3, Note 2
QUESTION: The note identifies that we are to destroy and not reuse equipment. However, specification section 02 41 00 discusses items to be salvage and reused. Please clarify government intent relative to the salvage of materials and equipment at this site. Please identify materials and equipment be salvaged FOR the owner.
ANSWER: Materials to be salvaged and reused by the Government are shown in drawing 222W2200001 sheet D1. The Contractor is responsible for salvaging and disposing of all other items in accordance with the specifications and drawings.

27.) REFERENCE: Contract Dwg SHEET 3, Note 3
QUESTION: This note identifies that utilities may not be identified in the documents provided and that we are to identify utilities at the site visit. This was not possible given

limited access at short time at the site visits. Please advise if we should anticipate additional utilities. Are these above or below ground?
ANSWER: No additional utilities are anticipated. The intent of the note is for the contractor to be cognizant during demolition operations of utilities that may not be shown on the drawings, particularly during lifting and excavation operations. The government will locate utilities in specific areas as requested by the contractor. Once the utilities are located, the contractor is expected to take the necessary precautions to protect the utilities. Above ground utilities and obstructions are clearly visible and the contractor is expected to maintain awareness of such utilities and obstructions. Any demolition requiring excavation by the contractor such as the one shown on drawing 222W2200001 sheet D1 will require an excavation permit as shown in Attachment J-1, article 3.7 of the solicitation. The excavation permit process includes the location of the utilities by the Government. Miscellaneous utilities not shown on the drawings may be located as part of this process. The contractor will be required to consider those utilities and protect them at no additional cost to the Government. Drawing Sheet 3, Note 3 is revised.

28.) REFERENCE: References to maintaining existing utilities indicated to stay (02 4100, 1.6.5 page 77)
QUESTION: Disconnected by the Government and sealed by the contractor. Are all locations identified? Are these above or below ground?
ANSWER: Paragraph 1.6.5 from specification 222WCM00001 Section 02 41 00 is in error. The Government will disconnect and seal and/or remove to the source all utilities serving the FSS/RSS. The contractor will be responsible to verify that any utilities not removed to the source by the Government have been deactivated (Paragraph 1.6.5 is deleted).

29.) REFERENCE: References to protecting existing utilities indicated to remain (02 4100, 1.6.6 page 78)
QUESTION: Are all locations identified? If not how many additional locations should we assume? Are these above or below ground?
ANSWER: All utility locations are identified in the contract drawings (Also see the response to Question 27).

30.) REFERENCE: 02 4100, 1.9 page 78) identifies removal and reinstallation of relocated items.
QUESTION: Please identify items to be removed and relocated, as per this contract.
ANSWER: No items are to be removed and relocated. Delete Paragraph 1.9 from Specification 222WCM00001 Section 02 41 00.

31.) REFERENCE: 02 4100, 3.1 page 80) identifies existing construction scheduled to be removed for reuse shall be disassembled.
QUESTION: Please identify what items are to be removed and disassembled. Where are items to be stored?

ANSWER: No items are to be removed and disassembled. No items are to be stored by the contractor. The only reuse materials are the metal lightposts and light fixtures shown in drawing 222W2200001, sheet D1.

32.) REFERENCE: 02 4100, 3.1.2.1 page 80) identifies shutting off and capping utilities, as indicated.
QUESTION: We are unable to locate specific locations in the documents provided. Please advise. Are utilities ABOVE GROUND or BELOW GROUND? Will contractor or government be required to terminate utilities?
ANSWER: The contractor will not be responsible for shutting off and capping utilities. The Government will disconnect and terminate utilities (Paragraph 3.1.2.1 is deleted).

33.) REFERENCE: 02 4100, 3.1.2.2. Page 80) identifies removal of meters and related equipment and deliver to a location in accordance with instruction of the Contracting Officer.
QUESTION: Please identify the quantity and type of devices to be removed. What location are these items to be delivered to?
ANSWER: The contractor will not be responsible for removing meters. The Government will disconnect and terminate utilities (Paragraph 3.1.2.2 is deleted).

34.) REFERENCE: 02 4100, 3.1.4. page 81) identifies removal of structural steel in a manner that will prevent bending or damage.
QUESTION: Please advise as to intent for this requirement. The intent to recycle steel?
ANSWER: The removal of structural steel in a manner that will prevent bending or damage will not be required (The first sentence of Paragraph 3.1.4 is deleted).

35.) REFERENCE: 02 4100, 3.1.8.2 Electrical Devices page 81) identifies removal of switches, switchgear, transformers, conductors including wire and nonmetallic sheathed and flexible armored cable, etc. Box and tag these items for identification according to type and size.
QUESTION: Please advise as to extent of this requirement. Are ALL items listed to be boxed and tagged? To be turned over to the government?
ANSWER: Boxing and tagging these items for identification according to type and size will not be required (Paragraph 3.1.8.2 is deleted).

36.) REFERENCE: 02 4100, 3.1.8.3 Wiring Ducts or Troughs, page 82) identifies removal and salvage of wiring ducts or troughs. Dismantle plug-in ducts and wiring troughs into unit lengths. Remove plug-in or disconnecting devices from the busway and store separately.
QUESTION: Is this stored material to be turned over to the Government? Please identify quantity of material to be salvaged and subsequently stored, under this item.
ANSWER: No (Paragraph 3.1.8.3 is deleted).

37.) REFERENCE: 02 4100, 3.2,1 Title to Materials, page 82) identifies salvaged items specified in related sections to be turned over to the government.

QUESTION: Please identify what materials we shall have title to, upon completion of the project. What materials shall we be turning over to the government?
ANSWER: Materials for turnover to the government are shown on Sheet D1 of drawing 222W2200001 Light Posts / Light Fixtures (Paragraph 3.2.1 is revised).

38.) REFERENCE: 02 4100, 3.2.3 Reuse of Materials and Equipment, page 82) identifies Removal and store materials and equipment listed in the Demolition Plan or as indicated by the Contracting Officer to be reused or relocated to prevent damage and reinstall as the work progresses.
QUESTION: Please identify items to be reused, relocated and reinstalled.
ANSWER: No materials are to be reused, relocated and reinstalled (Paragraph 3.2.3 is deleted).

39.) REFERENCE: Contract Dwg SHEET 3, Note 4
QUESTION: This note requires that we confirm quantities, however specification for Asbestos Abatement identifies that we shall be compensated for quantities the deviate from those identified. Which is correct?
ANSWER: Asbestos is the only case in which the contractor may be compensated for quantities that deviate from those identified in the Asbestos Schedule table shown in drawing 222W2200001, Sheet EN1.

40.) REFERENCE: Contract Dwg SHEET 3, Note 11
QUESTION: This note identifies that all material will become the property of the contractor with the exception of those items being turned over to the government. Please identify what materials are to be turned over to the government. Aside from an occasional note on the drawings, is there a list of Owner salvage items available?
ANSWER: Materials being turned over to the Government are shown in drawing 222W2200001, Sheet D1. No other list is available.

41.) REFERENCE: Contract Dwg SHEET 3
QUESTION: This note identifies items to be salvaged to be turned over to the government. Are all items that are identified to be salvaged to be turned over to the government?
ANSWER: Materials for turnover to the government are shown on Sheet D1 of drawing 222W2200001.

42.) REFERENCE: Contract Dwg SHEET 3, Note 18
QUESTION: This note requires that a 4’ tall barrier be installed around work areas prior to demolition. Is the intent to install barrier tape, a snow fence? Are there specific requirement for this barrier?
ANSWER: A 4 ft. construction barrier is not tape. The intent is to have a fence to prevent inadvertent entry to the project area. The configuration of the fence is at the option of the contractor. The fence shall be substantial enough to last through the construction period. If not designed to withstand hurricane force winds, the fence will have to be removed when hurricane watch is issued for the area and reinstalled prior to resuming work.

43.) REFERENCE: Contract Dwg SHEET 3, Note 32
QUESTION: This note identifies requirements for grading, sodding, etc. Is the intent to grade and sod laydown areas identified on SHEET 4 after the project is complete?
ANSWER: The intent is to grade and sod all previously grassed areas disturbed by the contractor to existing elevations.

44.) REFERENCE: Contract Dwg SHEET 3, Note 45
QUESTION: This note identifies that "others" will be removing equipment prior to the start of the project. Are we to assume that everything that was viewed at the last site visit, on 10.02.09, will be there when we mobilize?
ANSWER: Yes (Note 45 on Drawing Sheet 3 is deleted).

45.) REFERENCE: Contract Dwg SHEET 8,
QUESTION: This note requires the installation of a double row staked silt fence. What is meant by a double row silt fence? Will this be two fences installed parallel to one another? Please advise.
ANSWER: Details for silt fence are shown on Drawing 222W2200001 Sheet D5.

46.) REFERENCE: Contract Dwg SHEET 13,
QUESTION: Asbestos Abatement Note #3 identifies that any additional ACM encountered, not reported in the asbestos survey, shall be reported to the contracting officer immediately following discovery. No additional ACM abatement shall be performed without written authorization from the contracting officer. However, SHEET 3, Note 4 identifies that we confirm quantities. Will we be compensated for additional quantities of Asbestos, above quantities identified on drawing? Please advise.
ANSWER: Yes (See response to Question 39).

47.) REFRENCE: NA
QUESTION: Who will be responsible for the quantification of Asbestos material?
ANSWER: Work will be performed as a contract modification in accordance with Article H.5 of the solicitation.

48.) REFERENCE: Contract Dwg SHEET 13,
QUESTION: Asbestos Abatement Notes #2 identifies that a complete copy of the Asbestos survey by facilities can be obtained from the contracting officer.
Please advise as to how we would obtain a copy of this survey.
ANSWER: Survey is attached.

49.) REFERENCE: Contract Dwg SHEET 22,
QUESTION: Lighting Protection System, this drawing appears to be for information only. Please confirm that there is no work on this drawing.
ANSWER: There is no work related to the Lightning Protection System. This drawing shows the general location and the limits of the work areas in relationship with other structures within the perimeter fence of LC-39B. It also serves to make the contractor

aware of the elevation of the towers, the catenary wires and downconductors for planning purposes.

50.) REFERENCE: Specification page 88 of 337,
QUESTION: This section identifies that RACM is to be disposed of at the Brevard County Landfill. Will there be a fee for disposal of RACM at this site, for this project?
ANSWER: Applicable fee schedules are available from Solid Waste Management System for Brevard County, Florida, 2725 Judge Fran Jamieson Way, Building A-118 Viera, Florida 32940, T:(321) 633-2042.

51.) REFERENCE: Section L. 13 NFS 1852.223-773 Safety and Health Plan (page 310 of 337)
QUESTION: This section identifies that The offeror shall, upon request by the Contracting Officer, submit a detailed safety and occupational health plan. The plan shall be submitted within the time specified by the Contracting Officer. However I.17 GENERAL PROPOSAL PREPARATION INSTRUCTIONS, paragraph (c) (5) (page 315 of 337) identifies that Two (2) copies of your Safety and Health Plan in accordance with Article L.13 are required to be submitted with the bid. Please advise if we are required to submit a Health and Safety Plan with our Bid Proposal.
ANSWER: The Safety and Health Plan required in Article L.13 shall be submitted with the Bid Proposal (See Article L.17).

52.) REFERENCE: Specification 02 41 00, 3.2.6 on page 83 requires that we place recovered ODS in cylinders and turn over to the Contracting Officer
QUESTION: Please advise as to anticipated quantities of ODS (Ozone Depleting Substances) present within the facility.
ANSWER: There is no requirement for the contractor to recover Ozone Depleting Substances (Paragraph 3.2.6 is deleted).

53.) REFERENCE:
SPEC. REF: 02 41 00 pg. 81 para. 3.1.8.2 Electrical Device
SPEC. REF: 02 41 00 pg. 82 para. 3.1.8.3
SPEC REF: 02 41 00 pg. 82 3.2 Disposition Of Materials
DRAWING REFERENCE: Sheets 15,16, Notes 1
QUESTION: Sheets 16 and 17 General Notes1 indicate; All Mechanical, Electrical and Plumbing equipment within the limits of demolition are to be demolished.
Section 02 41 00 Pg. 81 Para. 3.1.8.2 Electrical Devices
In Part, “Remove switches, switch gear, transformers” etc. “Box and tag these items for identification according to size and type”.
Section 02 41 00 Pg. 82 Para 3.1.8.3 Wiring Ducts or Troughs
In Part, “Remove and salvage wiring ducts or troughs”. “Remove plug in or disconnecting devices from busway and store separately”.
The language of the specification is not clear of intent, to; ownership, destination, turn over, store, tag or deliver these specific items to Whom and who retains this salvage

equipment? Selective salvage/demolition is very time consuming and costly. Please Advise.
ANSWER: See Revised Specification Section Paragraph 3.2.1 Title to Materials.
54.) REFERENCE: NA
QUESTION: Will NASA adhere to Executive Order 13148 Section 505 sub (c)
ANSWER: Yes.

55.) REFERENCE: NA
QUESTION: Are the lightning protection towers to be demolished as part of this solicitation?
ANSWER: No (Also see response to Question 49).

56.) REFERENCE: Electrical Drawing - 222W2200001 Sheet 106 (E-1).
QUESTION: After review of the project drawings it appears that the only electrical demolition is shown on Drawing 222W2200001 Sheet 106 (E-1). Are we to assume that the electrical contractor shall verify only that all electrical has been de-energized? Are we to assume that is what Sheet 3 (V3) Note #5 is saying and that electrical demolition other than what is shown on E-1 will be done under a different contract? If this is not the case, then the bidding contractor will need much more information then what is shown on the drawings. Such as: Riser Diagrams. Locations and routing of equipment, At what point to be removed and saved for re-use. Please clarify your intent.
ANSWER: The contractor will not be responsible for shutting off and capping utilities. The Government will disconnect and terminate utilities (Also see response to Questions 1 & 2).

57.) REFERENCE: NA
QUESTION: Can the MLP access roadway running from the proposed laydown yard to Launch Pad 39B be used by the contractor for moving material with an off road truck and/or for moving contractor's demolition equipment from the pad to the proposed laydown yard?
ANSWER: No.

58.) REFERNCE: NA
QUESTION: Was the site visit on 9/22/09 mandatory?
ANSWER: No.

59.) REFERNCE: NA
QUESTION: If not mandatory where can I verify I have a complete set with addendums of the solicitation?

ANSWER: Go to the Federal Business Opportunities website at www.fbo.gov. All documents associated with this solicitation are posted there for dissemination to the public.

60.) REFERNCE: NA
QUESTION: Also is there a website or contact so I may be informed of future NASA projects' as they become advertised?
ANSWER: Yes. On the Federal Business Opportunities website at www.fbo.gov.

61.) REFERNCE: NA
QUESTION: The Solicitation requirements state that an offer guarantee is required, but I cannot find anywhere in the specifications, or solicitation that tell me the amount of the offer guarantee.
ANSWER: Section L.3, NFS Clause 1852.228-73, Bid Bond

62.) REFERNCE: NA
QUESTION: Where can locate a list of the attendees with their name, phone number and/or email so I can quote the necessary equipment to the prospective bidders.
ANSWER: See Solicitation Amendments 3 and 5.

62.) REFERNCE: NA
QUESTION: Is there a web site that shows the questions and answers?
ANSWER: The questions and responses will be posted by amendment on the Federal Business Opportunities website at www.fbo.gov.

62.) REFERNCE: NA
QUESTION: Where and when can we obtain a full size set of drawings and specifications for the LC-39B Demolition project?
ANSWER: You can download all documents from the Federal Business Opportunities website at www.fbo.gov.

63. REFERENCE: J-G-1
QUESTION: Will Davis-Bacon wage scale be waved on this project,
ANSWER: No.

63. REFERENCE: J-G-1
QUESTION: Are the wage rates in Section J-G-1 of the Contract Documents to be used as the guide for biding this project?

ANSWER: The Davis-Bacon Wage Determinations are issued by the U.S. Department of Labor under the Davis-Bacon and related Acts. The Wage and Hour Division of the

U.S. Department of Labor determines prevailing wage rates to be paid on federally funded or assisted construction projects. It is the responsibility of the federal agency that funds or financially assists Davis-Bacon covered construction projects to ensure that the proper Davis-Bacon wage determination(s) is/are applied to such construction contracts(s). (*See* 29 CFR 1.5 *and* 1.6(b)). Under the provisions of the Davis-Bacon Wage Act (DBA), contractors or their subcontractors are required to pay laborers and mechanics employed directly upon the site of the work no less than the locally prevailing wages and fringe benefits paid on projects of a similar character. The DBA directs the Department of Labor to determine such local prevailing wage rates (WDs). The WDs, also known as “general schedules”, are then to be placed in covered contracts by Federal agency contracting officials.

End of Questions / Comments.

5. All other terms and conditions remain unchanged.

6. End of amendment.

LIMITED ASBESTOS INSPECTION
FOR THE
DEMOLITION OF LAUNCH COMPLEX PAD 39B
AT
JOHN F. KENNEDY SPACE CENTER, FLORIDA

Prepared for the Benefit of:

NASA
Kennedy Space Center, Florida

Prepared by:

JONES EDMUNDS & ASSOCIATES, INC.
3910 S. Washington Ave, Suite 210
Titusville, Florida 32780

Jones Edmunds Project No. 14005-006-01

June 2009

Jones Edmunds & Associates, Inc. (Jones Edmunds) takes no responsibility for information, which was unobtainable, withheld, or misrepresented to the surveyors which can or would affect this inspection and abatement. Jones Edmunds has taken the information available through reasonable investigation and interpreted it with regard to the environmental laws currently in effect.

TABLE OF CONTENTS

1.0 INTRODUCTION

Jones Edmunds has completed a Limited Asbestos Inspection of the Launch Complex Pad 39B at the Kennedy Space Center (KSC) in Florida. This project has two packages, the Safing and Disconnect Package which is the safing and disconnection of all the systems that service the Rotating Service Structure (RSS) and the Fixed Service Structure (FSS). The second package is the demolition package, which will demolish the RSS and FSS to the pad surface. Facilities included in this project are the Fixed Service Structure (FSS), the Rotating Service Structure (RSS), the RSS rail bridge and the Emergency Egress Slidewire landing area (not including slide wire bunker J7-331). The areas directly beneath the Pad surface penetrations were also inspected for suspect materials and those materials are included in the safing and disconnect package. These facilities are located throughout the KSC Launch Complex 39B. Jones Edmunds maintains current certification by the State of Florida as an Asbestos Business Organization (# ZA-0000201). Our services were performed in general accordance with the Asbestos Hazard Emergency Response Act (AHERA) of 1986, 15 U.S.C. s. 2601. Our services were authorized by Sonia Johnson (NASA TA-B3A). The project for which determination of Asbestos-Containing Materials (ACM) was performed is the Demolition of Launch Complex Pad 39B. Jones Edmunds also performed a limited asbestos inpection of the LC 39B RSS and FSS (KSC-DX-8355) in 2006, which is provided in Appendix E.

Jones Edmunds was made aware that a limited asbestos inspection of the facility was previously performed. The survey results are now maintained within the Asbestos Management Information System (AMIS), also known as the Facility Asbestos Management System (FAMS), by the Institutional Service Contractor (ISC) EG&G and can be found on KSC's intranet at http://amis.ksc.nasa.gov.

During March, April and June 2009, Mr. Javier Du Quesne, EI, Jones Edmunds' accredited AHERA inspector and Mr. Thomas O. Murray, CIH, a State of Florida Licensed Asbestos Consultant (# IA-0000040) conducted an inspection of the facility for materials that may contain asbestos. To ensure that materials that could potentially contain asbestos were not overlooked, a list of assumed asbestos materials was compiled after the visual walk-down. The list of potential asbestos materials also includes the number of samples required by AHERA regulations, based on the estimated quantity of assumed material determined during the inspection. Jones Edmunds and Mr. Murray used this list as guidance when conducting the inspection on the dates indicated above. Credentials for Mr. Du Quesne and Mr. Murray are presented in Appendix A.

ACM on the project included but is not limited to transite panels, spray applied popcorn, pipe insulation, white ceiling tile mastic, drywall, joint compound, fiber flex gaskets, and electrical wire insulation. Each of the materials sampled during the inspection were grouped into a homogeneous area. Samples were taken in accordance with the AHERA sampling rules as outlined in 40 CFR 763. Jones Edmunds collected samples from the facilities for each accessible homogeneous area or used the previous AMIS and Jones Edmunds surveys to visually confirm that the areas have been sampled. Areas not accessible during the Jones Edmunds site visit included the FSS and RSS elevator shafts. In these cases, Jones Edmunds performed interstitial space inspections of the FSS and RSS elevator shaft and confirmed with NASA environmental that the elevator, shafts and associated equipment were refurbished in 1999. Fire resistant doors and high voltage electrical cables were determined to be non-asbestos via sampling and review of the Material Safety Data Sheet (MSDS) for the material. They are provided in Appendix D. All samples were submitted to a National Voluntary Laboratory Accreditation Program (NVLAP) accredited laboratory. Samples were analyzed by stereoscopic microscopy and polarized light microscopy (PLM) with dispersion staining as recommended by the EPA 600 method. Credentials for the laboratory are also presented in Appendix A.

Based on the determination of homogeneous areas and sampling results from the study and AMIS, Jones Edmunds' inspection, sampling and analysis determined that asbestos was present in the high-pressure gaskets on the FSS and RSS, in HVAC Duct Mastic, and in caulking around windows. Table 1 presents a list of asbestos materials includes the complete list of materials that were sampled or assumed. The AMIS report indicated that asbestos was determined within the HVAC duct materials (caulk and mastic) on the RSS Payload Changeout Room (PCR) and pipe insulation on RSS Level 117. Results of the laboratory analyses are presented in Appendix B. Results for the AMIS asbestos surveys are also presented in Appendix B.

J7-0337 - LAUNCH PAD 39B

ROOM NUMBER	MATERIAL TYPE	ASBESTOS	FRIABLE	CONDITION	QUANTITY	UNIT	LOCATION	COMMENTS	REPORT BY
202, LFAC STRUCTURES	WALL COVERING (PANEL)	YES	NO	GOOD	1060	SF	WALLS	TRANSITE PANELS	AMIS
203	CEILING MATERIALS (APPLIED/POPCORN)	YES	YES	GOOD	5	SF	FLOOR/CEILING	SPRAY APPLIED INSULATION REMNANT	AMIS
203	VALVES, ELBOWS, TEE'S (MUD)	YES	YES	GOOD	2	EA	WALLS	POTABLE WATER 2-4" OUTER DIAMETER MUDDED ELBOW	AMIS
203	WALL COVERING (PANEL)	YES	NO	GOOD	1300	SF	WALLS	TRANSITE PANELS	AMIS
204	CEILING MATERIALS (APPLIED/POPCORN)	YES	YES	GOOD	5	SF	CEILING	SPRAY APPLIED INSULATION REMNANT	AMIS
204	WALL COVERING (PANEL)	YES	NO	GOOD	915	SF	WALLS	TRANSITE PANELS	AMIS
204	WALL COVERING (PANEL)	YES	NO	ABATEMENT ACTION	1	SF	WALLS	TRANSITE PANELS	AMIS
204	WALL COVERING (PANEL)	YES	NO	N/A	20	EA	WALLS	TRANSITE PANELS	AMIS
205, COMPUTER	CEILING MATERIALS (APPLIED/POPCORN)	YES	YES	DAMAGED	5	SF	CEILING	SPRAY APPLIED INSULATION REMNANT	AMIS
205, COMPUTER	WALL COVERING (PANEL)	YES	NO	GOOD	1380	SF	WALLS	TRANSITE PANELS	AMIS
205, COMPUTER	WALL COVERING (PANEL)	YES	NO	ABATEMENT ACTION	1	SF	WALLS	TRANSITE PANELS	AMIS
205, COMPUTER	WALL COVERING (PANEL)	YES	NO	N/A	20	EA	WALLS	TRANSITE PANELS	AMIS
206	CEILING MATERIALS (APPLIED/POPCORN)	YES	YES	GOOD	286	SF	CEILING	SPRAY APPLIED INSULATION REMNANT	AMIS
206	WALL COVERING (PANEL)	YES	NO	GOOD	1320	SF	WALLS	TRANSITE PANELS	AMIS
207	CEILING MATERIALS (APPLIED/POPCORN)	YES	YES	DAMAGED	5	SF	CEILING	SPRAY APPLIED INSULATION REMNANT	AMIS
207	CEILING MATERIALS (MASTIC/ADHESIVE/GLUE)	YES	NO	GOOD	30	SF	WALLS	WHITE CEILING TILE MASTIC	AMIS
207	WALL COVERING (BASE MOLDING)	NO	NO	GOOD	16	LF	WALLS	BLACK BASEBOARD	AMIS
207	WALL COVERING (PANEL)	YES	NO	GOOD	1080	SF	WALLS	TRANSITE PANELS	AMIS
208, COMPUTER ROOM	CEILING MATERIALS (APPLIED/POPCORN)	YES	YES	DAMAGED	5	SF	CEILING	SPRAY APPLIED INSULATION REMNANT	AMIS
208, COMPUTER ROOM	CEILING MATERIALS (MASTIC/ADHESIVE/GLUE)	YES	NO	GOOD	20	SF	WALLS	WHITE CEILING TILE MASTIC	AMIS
208, COMPUTER ROOM	WALL COVERING (PANEL)	YES	NO	GOOD	2280	SF	WALLS	TRANSITE PANELS	AMIS
209/210 COMPUTER RM	CEILING MATERIALS (APPLIED/POPCORN)	YES	YES	DAMAGED	5	SF	CEILING	SPRAY APPLIED INSULATION REMNANT	AMIS
209/210 COMPUTER RM	WALL COVERING (PANEL)	YES	NO	GOOD	2120	SF	WALLS	TRANSITE PANELS	AMIS
211, VAULT	WALL COVERING (BASE MOLDING)	NO	NO	GOOD	112	LF	WALLS	BLACK BASEBOARD	AMIS
211, VAULT	WALL COVERING (DRYWALL)	YES	NO	GOOD	2240	SF	WALLS	DRYWALL/WALLBOARD	AMIS
211, VAULT	WALL COVERING (SPACKLE/JOINT COMPOUND)	YES	YES	GOOD	750	SF	WALLS	SPACKLE/JOINT COMPOUND	AMIS
212	WALL COVERING (BASE MOLDING)	NO	NO	GOOD	20	LF	WALLS	BLACK BASEBOARD	AMIS
212	WALL COVERING (PANEL)	YES	NO	GOOD	1400	SF	WALLS	TRANSITE PANELS	AMIS
213	WALL COVERING (BASE MOLDING)	NO	NO	GOOD	22	LF	WALLS	BLACK BASEBOARD	AMIS
213	WALL COVERING (PANEL)	YES	NO	GOOD	1040	SF	WALLS	TRANSITE PANELS	AMIS
215	CEILING MATERIALS (APPLIED/POPCORN)	YES	YES	DAMAGED	1	SF	CEILING	SPRAY APPLIED INSULATION REMNANT	AMIS
215	WALL COVERING (PANEL)	YES	NO	GOOD	N/A	N/A	WALLS	TRANSITE PANELS	AMIS
216, LOSC ELECTRIC	CEILING MATERIALS (TILE)	NO	YES	GOOD	324	SF	CEILING	2X4 SMALL NATURAL FISSURE PITTED WITH PINHOLES	AMIS
216, LOSC ELECTRIC	WALL COVERING (BASE MOLDING)	NO	NO	GOOD	18	LF	WALLS	BLACK BASEBOARD	AMIS
216, LOSC ELECTRIC	WALL COVERING (PANEL)	YES	NO	GOOD	180	SF	WALLS	TRANSITE PANELS	AMIS
217, MECH	MISCELLANEOUS MATERIAL (DEBRIS)	YES	YES	SEVERELY DAMAGED	3	SF	FLOOR	UNKNOWN DEBRIS	AMIS
217, MECH	MISCELLANEOUS MATERIAL (GASKET)	NO	YES	GOOD	25	SF	FLOOR	STORED GARLOCK	AMIS
217, MECH	MISCELLANEOUS MATERIAL (GASKET)	YES	YES	GOOD	35	SF	FLOOR	STORED FIBERFLEX	AMIS
217, MECH	MISCELLANEOUS MATERIAL (OTHER)	YES	NO	GOOD	25	LF	FLOOR	BLACK PAINT	AMIS
218, LADIES RESTROOM	PIPE INSULATION, STRAIGHT (FIBERGLASS)	NO	NO	GOOD	12	LF	WALLS	1.5" FIBERGLASS WITH WHITE SKIN	AMIS

J7-0337 - LAUNCH PAD 39B									
ROOM NUMBER	MATERIAL TYPE	ASBESTOS	FRIABLE	CONDITION	QUANTITY	UNIT	LOCATION	COMMENTS	REPORT BY
218, LADIES RESTROOM	VALVES, ELBOWS, TEE'S (MUD)	YES	YES	GOOD	2	EA	WALLS	POTABLE WATER 2-4" OUTER DIAMETER MUDDED ELBOW	AMIS
218, LADIES RESTROOM	WALL COVERING (BASE MOLDING)	NO	NO	GOOD	36	LF	WALLS	BLACK BASEBOARD	AMIS
219, STORAGE	PIPE INSULATION, STRAIGHT (FIBERGLASS)	NO	NO	GOOD	12	LF	CEILING	1.5" FIBERGLASS WITH WHITE SKIN	AMIS
219, STORAGE	WALL COVERING (DRYWALL)	YES	NO	GOOD	180	SF	WALLS	DRYWALL/WALLBOARD	AMIS
219, STORAGE	WALL COVERING (SPACKLE/JOINT COMPOUND)	YES	YES	GOOD	60	SF	WALLS	SPACKLE/JOINT COMPOUND	AMIS
219, STORAGE	WALL COVERING (PANEL)	YES	NO	GOOD	510	SF	WALLS	TRANSITE PANELS	AMIS
220	CEILING MATERIALS (APPLIED/POPCORN)	YES	YES	DAMAGED	5	SF	CEILING	SPRAY APPLIED INSULATION REMNANT	AMIS
220	WALL COVERING (PANEL)	YES	NO	GOOD	1320	SF	WALLS	TRANSITE PANELS	AMIS
221, CONTROL ROOM	CEILING MATERIALS (MASTIC/ADHESIVE/GLUE)	YES	NO	GOOD	704	SF	CEILING	WHITE CEILING TILE MASTIC	AMIS
221, CONTROL ROOM	CEILING MATERIALS (TILE)	NO	YES	GOOD	675	SF	CEILING	1X4 WHITE OVER FIBERGLASS CORE	AMIS
221, CONTROL ROOM	CEILING MATERIALS (TILE)	NO	YES	GOOD	30	SF	CEILING	1X4 WHITE FISSURE PINHOLE	AMIS
221, CONTROL ROOM	WALL COVERING (BASE MOLDING)	NO	NO	GOOD	22	LF	WALLS	BLACK BASEBOARD	AMIS
221, CONTROL ROOM	WALL COVERING (DRYWALL)	YES	NO	GOOD	440	SF	WALLS	DRYWALL/WALLBOARD	AMIS
221, CONTROL ROOM	WALL COVERING (SPACKLE/JOINT COMPOUND)	YES	YES	GOOD	145	SF	WALLS	SPACKLE/JOINT COMPOUND	AMIS
2ND FLR SOUTH HALL	CEILING MATERIALS (APPLIED/POPCORN)	YES	YES	GOOD	75	SF	CEILING	SPRAY APPLIED INSULATION REMNANT	AMIS
2ND FLR SOUTH HALL	PIPE INSULATION, STRAIGHT (FIBERGLASS)	NO	NO	GOOD	53	LF	CEILING/WALLS	1.5" FIBERGLASS WITH WHITE SKIN	AMIS
2ND FLR SOUTH HALL	WALL COVERING (BASE MOLDING)	NO	NO	GOOD	63	LF	WALLS	BLACK BASEBOARD	AMIS
2ND FLR SOUTH HALL	WALL COVERING (DRYWALL)	YES	NO	GOOD	250	SF	WALLS	DRYWALL/WALLBOARD	AMIS
2ND FLR SOUTH HALL	WALL COVERING (SPACKLE/JOINT COMPOUND)	YES	YES	GOOD	85	SF	WALLS	SPACKLE/JOINT COMPOUND	AMIS
2ND FLR SOUTH HALL	WALL COVERING (PANEL)	YES	NO	GOOD	715	SF	WALLS	TRANSITE PANELS	AMIS
J7-0337 - LAUNCH PAD 39B									
ROOM NUMBER	MATERIAL TYPE	ASBESTOS	FRIABLE	CONDITION	QUANTITY	UNIT	LOCATION	COMMENTS	REPORT BY
2ND NORTH HALL	WALL COVERING (BASE MOLDING)	NO	NO	GOOD	40	LF	WALLS	BLACK BASEBOARD	AMIS
2ND NORTH HALL	WALL COVERING (PANEL)	YES	NO	GOOD	330	SF	WALLS	TRANSITE PANELS	AMIS
BATHROOM PLENUM	CEILING MATERIALS (OTHER, MISC.)	NO	YES	GOOD	120	LF	CEILING	CEILING U-GRID INSULATION	AMIS
BATHROOM PLENUM	PIPE INSULATION, STRAIGHT (FIBERGLASS)	NO	NO	GOOD	175	LF	CEILING/WALLS /FLOOR	POTABLE WATER 2-6" OUTER DIAMETER WHITE PAPER FOIL OVER FIBERGLASS	AMIS
BATHROOM PLENUM	VALVES, ELBOWS, TEE'S (MUD)	YES	YES	DAMAGED	28	EA	FLOOR	POTABLE WATER 2-4" OUTER DIAMETER MUDDED ELBOW	AMIS
BOILER RM, EXTERIOR	ELECTRICAL MATERIALS (WIRE)	YES	NO	GOOD	8	LF	FLOOR	ELECTRICAL WIRE INSULATION	AMIS
BOILER RM, EXTERIOR	TANK/BOILER/CHILLER INSULATION (BLOCKS/MOLDED)	YES	YES	DAMAGED	30	LF	CEILING	BOILER FLUE INSULATION	AMIS
ELECTRICAL VAULT	ELECTRICAL MATERIALS (MASTIC)	NO	NO	GOOD	10	LF	ELECTRICAL SWITCH PANEL	CLEAR, PANEL CAULKING/GASKET	AMIS
FSS LVL 195	DUCT/HVAC MATERIALS (CAULK, MASTIC)	NO	NO	DAMAGED	4	LF	CEILING	WHITE MASTIC/CLOTH OVER FOAM	AMIS
FSS LVL 195	DUCT/HVAC MATERIALS (GASKET)	NO	NO	GOOD	2	SF	CEILING	BLACK DUCT GASKET	AMIS

J7-0337 - LAUNCH PAD 39B									
ROOM NUMBER	MATERIAL TYPE	ASBESTOS	FRIABLE	CONDITION	QUANTITY	UNIT	LOCATION	COMMENTS	REPORT BY
FSS LVL 195	PIPE INSULATION, STRAIGHT (FIBERGLASS)	NO	YES	GOOD	20	LF	FLOOR/CEILING	METAL WRAPPED HEATER CYLINDER OFF WHITE FIBERGLASS	AMIS
FSS LVL 195	PIPE INSULATION, STRAIGHT (GLASS, FOAM)	NO	YES	GOOD	20	LF	FLOOR/CEILING	HEATER PIPE INSULATION	AMIS
HIGH PRESSURE GAS AREA	NO MATERIAL IDENTIFIED.	N/A	N/A	N/A	N/A	N/A	N/A	NA	AMIS
MAIN 2ND FL HALL	CEILING MATERIALS (APPLIED/POPCORN)	YES	YES	DAMAGED	10	SF	CEILING	SPRAY APPLIED INSULATION REMNANT	AMIS
MAIN 2ND FL HALL	VALVES, ELBOWS, TEE'S (MUD)	YES	NO	GOOD	1	EA	FLOOR	CHILL WATER SUPPLY & RETURN 6-8" OUTER DIAMETER 90'S T'S & V'S	AMIS
MAIN 2ND FL HALL	WALL COVERING (BASE MOLDING)	NO	NO	GOOD	43	LF	WALLS	BLACK BASEBOARD	AMIS
MAIN 2ND FL HALL	WALL COVERING (DRYWALL)	YES	NO	GOOD	480	SF	WALLS	DRYWALL/WALLBOARD	AMIS
MAIN 2ND FL HALL	WALL COVERING (SPACKLE/JOINT COMPOUND)	YES	YES	GOOD	160	SF	WALLS	SPACKLE/JOINT COMPOUND	AMIS
MAIN 2ND FL HALL	WALL COVERING (PANEL)	YES	NO	GOOD	3000	SF	WALLS	TRANSITE PANELS	AMIS
OXY RECEIVE AREA	ELECTRICAL MATERIALS (MASTIC)	YES	NO	GOOD	2	SF	WALLS	MASTIC	AMIS
PCR	CEILING MATERIALS (SPACKLE/JOINT COMPOUND)	NO	NO	GOOD	0	N/A	N/A	CEILING MASTIC	AMIS
PCR	DUCT/HVAC MATERIALS (CAULK, MASTIC)	NO	NO	GOOD	0	N/A	N/A	DUCT MASTIC	AMIS
PCR	DUCT/HVAC MATERIALS (CAULK, MASTIC)	YES	NO	GOOD	10	SF	N/A	BROWN/RED DUCT MASTIC	AMIS
PCR	DUCT/HVAC MATERIALS (FIBERGLASS)	NO	NO	GOOD	0	N/A	N/A	DUCT INSULATION	AMIS
RSS LVL 117	PIPE INSULATION, STRAIGHT (FIBERGLASS)	YES	NO	GOOD	50	LF	N/A	BLACK MASTIC ON FIBERGLASS	AMIS
FSS AND RSS	MISCELLANEOUS MATERIALS (INSULATION)	NO	NO	DAMAGED	200,000	LF	WALL / CEILING	BLACK INSULATION ON ELECTRICAL WIRING	JONES EDMUNDS
FSS AND RSS	MISCELLANEOUS MATERIALS (WRAP)	NO	NO	DAMAGED	200,000	LF	WALL / CEILING	SILVER WRAP ON ELECTRICAL WIRING	JONES EDMUNDS
FSS LVL 115	CORRUGATED PANELS	NO	NO	GOOD	10,000	SF	WALL	CORRUGATED METAL PANELS, MASTIC, PAINT	JONES EDMUNDS
FSS LVL 203 (ET/IT PLATFORM)	MISCELLANEOUS MATERIALS (GASKET)	NO	NO	DAMAGED	200	EA	CEILING	HVAC BLACK GASKET	JONES EDMUNDS
FSS LVL 203 (ET/IT PLATFORM)	HVAC DUCT INSULATION	NO	YES	GOOD	200	LF	CEILING	WHITE MASTIC, WRAP, INSULATION	JONES EDMUNDS
FSS LVL 203 (ET/IT PLATFORM)	MISCELLANEOUS MATERIALS (GASKET)	NO	NO	DAMAGED	12	EA	CEILING	HVAC BLACK GASKET	JONES EDMUNDS
FSS LVL 95	MISCELLANEOUS MATERIALS (MASTIC)	NO	NO	DAMAGED	126	SF	FLOOR	PINK AND GRAY MASTIC ON FLOOR	JONES EDMUNDS
FSS LVL 95	MISCELLANEOUS MATERIALS (INSULATION)	NO	YES	DAMAGED	448	SF	FLOOR	SPRAYED INSULATION ON INTERIOR OF STORAGE CONTAINER	JONES EDMUNDS
FSS	ELEVATOR DOORS	NO	NO	GOOD	800	SF	WALL	FIBERGLASS, EPOXY	JONES EDMUNDS
FSS PAD SURFACE	VALVES ELBOWS AND TEES	NO	YES	GOOD	100	LF	WALL	OFF-WHITE MASTIC, FOAM GLASS, WRAP	JONES EDMUNDS
FSS PAD SURFACE	MISCELLANEOUS MATERIALS (GASKET)	YES	NO	GOOD	4	EA	WALL	GASKET AT FLANGED JOINT ON HIGH PRESSURE LINE	JONES EDMUNDS
FSS/RSS	ASSUMED BRAKE SHOES	YES	NO	GOOD	18	EA	FLOOR	BRAKE SHOES ON WINCHES	JONES EDMUNDS
PAD SURFACE	MISCELLANEOUS MATERIALS (BLDG. SEAL)	NO	NO	GOOD	40	LF	FLOOR / CEILING	CREAM BUILDING SEAL	JONES EDMUNDS
RSS	CORRUGATED PANELS	NO	NO	GOOD	7,500	SF	WALL	CORRUGATED METAL PANELS, MASTIC, PAINT	JONES EDMUNDS
RSS ELEVATOR RM	CEILING MATERIALS (INSULATION)	NO	YES	GOOD	200	SF	CEILING	WRAP; FIBERGLASS; WHITE MASTIC	JONES EDMUNDS
RSS LVL 130	MISCELLANEOUS MATERIALS (VIBRATION JOINT)	NO	NO	GOOD	2	SF	FLOOR	BLACK VIBRATION JOINT ON VACUUM SYSTEM (NOTE: THESE ITEMS ARE COATED WITH PAINT)	JONES EDMUNDS
RSS LVL 140	HVAC INSULATION	NO	YES	DAMAGED	200	LF	CEILING	GRAY MASTIC; WHITE MASTIC; WRAP; FOAM GLASS; INSULATION; BLACK EPOXY MASTIC; METAL JACKET	JONES EDMUNDS
RSS LVL 140	MISCELLANEOUS MATERIALS (GASKET)	NO	NO	DAMAGED	200	EA	CEILING	HVAC BLACK GASKET	JONES EDMUNDS
RSS LVL 182	MISCELLANEOUS MATERIALS (MASTIC)	NO	NO	DAMAGED	10	SF	WALL	GRAY;WHITE MASTIC ON HVAC	JONES EDMUNDS
RSS LVL 182	MISCELLANEOUS MATERIALS (GASKET)	NO	NO	DAMAGED	40	LF	WALL	FOAM GASKET ON WINCH DUCT	JONES EDMUNDS
RSS LVL 182	MISCELLANEOUS MATERIALS (VIBRATION JOINT)	NO	NO	DAMAGED	40	SF	WALL	BLACK VIBRATION JOINT ON HVAC	JONES EDMUNDS
RSS LVL 182	MISCELLANEOUS MATERIALS (MASTIC)	NO	NO	DAMAGED	50	SF	WALL	GRAY MASTIC AT WALL PENETRATIONS	JONES EDMUNDS
RSS LVL 182	MISCELLANEOUS MATERIALS (MASTIC)	NO	NO	DAMAGED	100	SF	WALL	WHITE MASTIC AT WALL PENETRATIONS	JONES EDMUNDS
RSS LVL 182 (MECH ROOM)	MISCELLANEOUS MATERIALS (CAULK)	YES	NO	GOOD	50	LF	WINDOW	BLACK CAULKING AROUND WINDOWS	JONES EDMUNDS
RSS LVL 182 (MECH ROOM)	CEILING MATERIALS (INSULATION)	NO	YES	GOOD	1,250	SF	CEILING	WRAP; FIBERGLASS; WHITE MASTIC	JONES EDMUNDS

J7-0337 - LAUNCH PAD 39B									
ROOM NUMBER	MATERIAL TYPE	ASBESTOS	FRIABLE	CONDITION	QUANTITY	UNIT	LOCATION	COMMENTS	REPORT BY
RSS LVL 182 (MECH ROOM)	FLOOR COVERING (CEMENT)	NO	YES	DAMAGED	1,250	SF	FLOOR	GRAY CEMENT ON FLOOR	JONES EDMUNDS
RSS LVL 182 (MECH ROOM)	MISCELLANEOUS MATERIALS (INSULATION)	NO	NO	DAMAGED	200	LF	CEILING	ORANGE INSULATION ON ELECTRICAL WIRING	JONES EDMUNDS
RSS LVL 182 (MECH ROOM)	MISCELLANEOUS MATERIALS (MASTIC)	NO	NO	GOOD	30	SF	CEILING	BROWNISH GRAY MASTIC ON HVAC	JONES EDMUNDS
RSS LVL 215	HIGH PRESSURE GASKET	YES	NO	GOOD	90	LF	HIGH PRESSURE PIPES	THIN, HARD GASKET	JONES EDMUNDS
RSS PCR	DUCT/HVAC CAULK AND MASTIC	YES	YES	GOOD	10	SF	DUCT	AMIS REPORT / ACM FOUND DURING FIBERGLASS DUCT INSULATION REMOVAL	JONES EDMUNDS
RSS TRUCK ROOM	MISCELLANEOUS MATERIALS (MASTIC)	NO	NO	GOOD	100	SF	WALL	DARK GRAY MASTIC ON WALLS	JONES EDMUNDS

2.0 ASBESTOS SURVEY PROCEDURES

The purpose of an asbestos inspection and/or survey is to identify ACM and to document their condition and location. This survey was conducted by observing, touching, and evaluating the ACM of concern. The ACM of concern was then recorded, sampled, and sent to the lab for testing. Inaccessible areas, if any, are recorded and noted in the report. The results of the survey are then converted into tabular form.

3.0 ASBESTOS BULK SAMPLING AND ANALYSIS PROCEDURES

Bulk sampling procedures used for the collection of ACM first require that homogenous sampling areas be established. A *homogenous sampling area* is defined under 40 CFR 763 as an area of material that is uniform in color and texture. Industry standards also dictate that the suspect material should have been applied during the same general time period and Jones Edmunds attempts to verify this through As-Built drawings, dates on materials and any other means available at the time of inspection. The materials of concern identified in the facility were evaluated and grouped into homogenous categories for this inspection and sampling.

Collected bulk samples were analyzed by stereoscopic microscopy and PLM coupled with dispersion staining. PLM is an Environmental Protection Agency (EPA)-approved analytical method for asbestos identification that distinguishes the unique optical properties of mineral forms in the samples and specifically identifies the various asbestos types. This is the method of analysis recommended by the EPA 600 method for asbestos identification in bulk samples.

PLM uses visual area estimation as an analytical technique; this is a quick, low-cost quantitative analysis for asbestos in bulk materials. However, using a visual-area estimation technique introduces a margin of error of +/- 10% into the final results. A technique called 'Point Counting' improves the quantitative analysis of asbestos in bulk samples and the National Emission Standards for Hazardous Air Pollutants (NESHAP) now requires this technique to be conducted on samples determined to contain less than 10% asbestos by PLM methods. Alternatively, materials determined by PLM to contain asbestos at levels equal to or greater than 10% can be assumed to be asbestos containing without Point Counting.

In materials that are organically bound, PLM is the primary method used to analyze bulk samples and is identified as a method in the OSHA and EPA regulations. Based on the EPA 600 method of determining asbestos in bulk samples and 40 CFR 763 a bulk sample may sometimes contain interferences, which includes but is not limited to organic and inorganic constituents that interfere with the quantitation of the asbestos mineral content in a sample. In these cases the 600 method recommends reduction of the interference in three ways, size reduction via a mortar and pestle loosely bound materials, performing acid treatment on the sample or performing ashing treatment on the sample. In each of these methods the sample is analyzed via PLM before and after the treatment. The EPA 600 method and Carolina Environmental, Inc. stated that if the laboratory still cannot determine asbestos quantity via PLM and point counting and feels that there is a possibility of asbestos content in any bound sample, then the lab shall recommend that a TEM analysis is performed on those samples to further verify asbestos content.

It is reasonable and customary within the industry to initially analyze bulk samples by PLM and, if any further verification is needed, to re-analyze the samples by the more exacting Point Count method. This approach generally suits KSC by keeping costs low. If PLM analytical laboratory results indicate the amount of asbestos in a material to be less than 10%, the parties legally responsible for a building (government or operator) may elect to assume the amount to be greater than 1% and treat the material as regulated ACM, or require verification analysis by point counting. If a result determined by point counting is different than a result determined by PLM, the point count result will prevail.

Materials identified during the study survey that contained 1% to 10% asbestos include window mastic and gaskets on the high pressure lines. There were no materials identified during this survey that contained less than 1% of asbestos. The asbestos inspectors' field notes and photographs of ACM sampled by Jones Edmunds are presented in Appendix C.

4.0 ASBESTOS SAMPLING SUMMARY

Jones Edmunds and Mr. Murray took samples of suspected asbestos-containing materials during March, April and June 2009. Collecting samples from each homogeneous area is reasonable and customary during an asbestos inspection to confirm an asbestos finding. Jones Edmunds took samples from each homogeneous area and visually confirmed AMIS and Jones Edmunds reports. Many of the common and ordinary materials were discovered to be similar, therefore, like materials were classified together in their respective homogeneous areas.

Sampling locations, estimated quantities, friability, and physical condition of the materials were documented in the field notes presented in Appendix C. Photographs of these sampling locations are also presented in Appendix C. Estimates of the quantity or condition of ACM are subject to readily observable site situations, and our findings reflect these restrictions. Jones Edmunds warrants that our investigations and methodology reflect best effort based upon prevailing standards of care in the environmental industry.

5.0 RECOMMENDATIONS AND CONCLUSIONS

Five methods can be used to control asbestos: (1) Operations and Maintenance, (2) Repair, (3) Encapsulation, (4) Enclosure, and (5) Removal. The selection of a method depends on the intended use of the building/facility and the cost of abatement. Asbestos-containing materials are classified under four categories in accordance with EPA 40 CFR Part 61:

Friable – materials that, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure.

Category I Nonfriable – packings, gaskets, resilient flooring, and asphalt roofing products with more than 1% asbestos.

Category II Nonfriable – any material excluding Category I nonfriable ACM with more than 1% asbestos.

Regulated Asbestos-Containing Material (RACM) – (a) Friable asbestos material, (b) Category I nonfriable asbestos that has become friable, (c) Category I nonfriable ACM that will be or has been subject to sanding, cutting, grinding, or abrading, or (d) Category II nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to a powder.

Because the facilities are to be demolished, demolition shall be in accordance with EPA NESHAP 40 CFR Part 61, Florida Administrative Code (FAC) 62-257, KNPR 1840.19 KSC Industrial Hygiene Programs, KNPR 8500.1 KSC Environmental Requirements and must comply with OSHA Construction Standards 29 CFR 1926.1101. In accordance with NESHAPs, Categories I and II nonfriable ACM do not need to be removed before demolition provided that the material is not subject to sanding, cutting, grinding, or abrading or made friable by other means. However, in accordance with NASA-KSC policy, all ACM shall be removed before demolition. As specified in NESHAPS, ACM need not be removed

before demolition if it was not accessible for testing and was, therefore, not discovered until after demolition began and, as a result of the demolition, the material cannot be safely removed.

All ACM needs to be abated before demolition in accordance with NASA-KSC policy. All waste generated shall be documented using the Process Waster Questionnaire/Technical Response Package (PWQ/ TRP) process as outlined in KNPR 8500.1 and the Contract Clause "Hazardous Waste." Non-friable asbestos will be accepted at the KSC class III landfill upon determination using KSC form 28-1024 and signed by the NASA environmental chief. A receipt of disposal shall be copied to the contracting officer. Disposal of all friable ACM segregated from demolition debris shall be in the Brevard County Landfill located on Adamson road in Cocoa, FL. Category 1 non-friable asbestos that becomes friable by demolition activities or is in poor condition and will become friable shall be treated as friable regulated ACM and shall also be taken to the Brevard County Landfill.

Project Title: Limited Asbestos Inspection for Demolition of Launch Complex Pad 39B

Jones Edmunds Project No. 14005-006-01

Prepared by:

Jones Edmunds & Associates, Inc.

Javier Du Quesne, EI
Asbestos Inspector

Reviewed by:

Applied Environmental Health and Safety, Inc.

Thomas O. Murray, C.I.H. 6/22/09
Date
State of Florida Licensed Asbestos Consultant
(IA0000040)

APPENDIX A

QUALIFICATIONS OF PERSONNEL AND LABORATORY

STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION

ASBESTOS LICENSING UNIT
1940 NORTH MONROE STREET
TALLAHASSEE FL 32399-0783

(850) 487-1395

MURRAY, THOMAS O
1743 WIND DRIFT RD.
ORLANDO FL 32809

Congratulations! With this license you become one of the nearly one million Floridians licensed by the Department of Business and Professional Regulation. Our professionals and businesses range from architects to yacht brokers, from boxers to barbeque restaurants, and they keep Florida's economy strong.

Every day we work to improve the way we do business in order to serve you better. For information about our services, please log onto **www.myfloridalicense.com**. There you can find more information about our divisions and the regulations that impact you, subscribe to department newsletters and learn more about the Department's initiatives.

Our mission at the Department is: License Efficiently, Regulate Fairly. We constantly strive to serve you better so that you can serve your customers. Thank you for doing business in Florida, and congratulations on your new license!

STATE OF FLORIDA AC# 4124116
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION

IA0000040 10/31/08 08805917B

ASBESTOS CNSLT - INV/HYGIENIST
MURRAY, THOMAS O

IS LICENSED under the provisions of Ch.469 FS.
expiration date: NOV 30, 2010 L08103102828

DETACH HERE

AC# 4124116 STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION
ASBESTOS LICENSING UNIT SEQ# L08103102828

DATE	BATCH NUMBER	LICENSE NBR
10/31/2008	08805917B	IA0000040

THE ASBESTOS CONSULTANT
Named below IS LICENSED
Under the provisions of Chapter 469 FS
Expiration date: NOV 30, 2010

MURRAY, THOMAS O
1743 WINDRIFT RD
ORLANDO FL 32809-6840

CHARLIE CRIST
GOVERNOR

DISPLAY AS REQUIRED BY LAW

CHARLES W. DRAGO
SECRETARY

STATE OF FLORIDA

DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION

ASBESTOS LICENSING UNIT
1940 NORTH MONROE STREET
TALLAHASSEE FL 32399-0783

(850) 487-1395

JONES, EDMUNDS & ASSOCIATES INC
THOMAS O MURRAY
730 NE WALDO RD
GAINESVILLE FL 32641

DETACH HERE

AC# 3467101 STATE OF FLORIDA

DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION
ASBESTOS LICENSING UNIT

DATE	BATCH NUMBER	LICENSE NBR
10/02/2007	07805A886	ZA0002101

The ASBESTOS BUSINESS ORGANIZATION
Named below IS LICENSED
Under the provisions of Chapter 469 FS.
Expiration date: NOV 30, 2009

JONES, EDMUNDS & ASSOCIATES INC
THOMAS O MURRAY
730 NE WALDO RD BLDG A
GAINESVILLE FL 32641

CHARLIE CRIST
GOVERNOR

DISPLAY AS REQUIRED BY LAW

TOLLY BENSON
SECRETARY

UNIVERSITY OF FLORIDA

TREEO CENTER

Center for Training, Research and Education for Environmental Occupations certifies

Javier A. Du Quesne

Jones Edmunds & Associates, Inc., 3390 Fox Lake Rd. Titusville, FL 32780

has successfully met certificate requirements for the

Asbestos Refresher: Inspector

FBPR Asbestos Licensing Unit: Provider #0000995; Course #FL49-0004731

(Reaccreditation for Inspector under TSCA Title II/AHERA)

Conducted

04/28/2009

Certificate #: 090258-0808
CEUs: .4
EPA accreditation expires: 04/28/2010
Principal Instructor: Brian Duchene, PE

FBPR LAC: #0000995; Course #0004731
FBPE PDHs (#0004040): 4.0
ABIH: CM Points 0.5
FBPR ARCH: #1790 (0000995); Course #AR.04.318B (0007372); Hrs 5.0 (Intermediate)

William T. Engel, Jr., Ph.D.
Director

National Voluntary Laboratory Accreditation Program

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

Carolina Environmental, Inc.
107 New Edition Court
Cary, NC 27511
Dr. Tianbao Bai
Phone: 919-481-1413 Fax: 919-481-1442
E-Mail: bai@ceilabs.com
URL: http://www.ceilabs.com

BULK ASBESTOS FIBER ANALYSIS (PLM) **NVLAP LAB CODE 101768-0**

NVLAP Code	*Designation / Description*
18/A01	EPA-600/M4-82-020: Interim Method for the Determination of Asbestos in Bulk Insulation Samples

2009-04-01 through 2010-03-31
Effective dates

Sally S. Bruce
For the National Institute of Standards and Technology

United States Department of Commerce
National Institute of Standards and Technology

Certificate of Accreditation to ISO/IEC 17025:2005

NVLAP LAB CODE: 101768-0

Carolina Environmental, Inc.

Cary, NC

is accredited by the National Voluntary Laboratory Accreditation Program for specific services, listed on the Scope of Accreditation, for:

BULK ASBESTOS FIBER ANALYSIS

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).

2009-04-01 through 2010-03-31

Effective dates

Sally S. Bruce

For the National Institute of Standards and Technology

NVLAP-01C (REV. 2009-01-28)

APPENDIX B

ASBESTOS ANALYTICAL LABORATORY RESULTS

CAROLINA ENVIRONMENTAL, INC.
107 New Edition Court, Cary, NC 27511
Phone: (919) 481-1413 Fax: (919) 481-1442

LABORATORY REPORT
ASBESTOS BULK ANALYSIS

Client: Jones, Edmunds & Associates, Inc.
3910 S. Washington Ave Suite 210
Titusville , FL 32780

Project: 14005-006-01

CEI Lab Code: A09-1990
Received: 03-31-09
Analyzed: 04-01-09
Reported: 04-01-09
Analyst: Tianbao Bai

CLIENT ID	CEI LAB ID	HOMOGENEITY DESCRIPTION	% ASBESTOS
FSS-FM-2	A890166	FLOOR MASTIC	ND
	Homogeneous,	Grey, Non-fibrous, Bound	
		BIND 100 %	
FSS-FM-3	A890167	FLOOR MASTIC	ND
	Homogeneous,	Grey, Non-fibrous, Bound	
		BIND 100 %	
FSS-SM-1	A890168	SPRAY COVERING	ND
	Homogeneous,	Beige, Non-fibrous, Bound	
		BIND 90 %	
		SILI 10 %	
FSS-SM-2	A890169	SPRAY COVERING	ND
	Homogeneous,	Beige, Non-fibrous, Bound	
		BIND 90 %	
		SILI 10 %	
FSS-SM-3	A890170	SPRAY COVERING	ND
	Homogeneous,	Beige, Non-fibrous, Bound	
		BIND 90 %	
		SILI 10 %	
FSS-TSI-1	A890171	PIPE INSULATION	ND
	Heterogeneous,	White, Black, Fibrous, Bound	
		BIND 10 % CELL <1 %	
		PERL 85 % FBGL 5 %	

CAROLINA ENMRONMENTAL, INC.
107 New Edition Court, Cary, NC 27511
Phone: 919-481-1413 Fax : 919-481-1442

Project: 14005-006-01

Lab Code: A09-1990

CLIENT ID	CEI LAB ID	HOMOGENEITY DESCRIPTION	% ASBESTOS
FSS-TSI-2	A890172	PIPE INSULATION	ND
	Heterogeneous,	White, Black, Fibrous, Bound	
		BIND 10 % CELL <1 %	
		PERL 85 % FBGL 5 %	
FSS-TSI-3	A890173	PIPE INSULATION	ND
	Heterogeneous,	White, Black, Fibrous, Bound	
		BIND 10 % CELL <1 %	
		PERL 85 % FBGL 5 %	
FSS-TI-1	A890174	HVAC PIPE INSULATION (ORANGE)	ND
	Heterogeneous,	White, Brown, Fibrous, Bound	
		BIND 10 % WOLL 2 %	
		FOAM 80 % FBGL 8 %	
FSS-TI-2	A890175	HVAC PIPE INSULATION (ORANGE)	ND
	Heterogeneous,	White, Brown, Fibrous, Bound	
		BIND 3 % WOLL 1 %	
		FOAM 95 % FBGL 1 %	
FSS-G-1	A890176	HVAC PIPE GASKET	ND
	Heterogeneous,	White, Black, Non-fibrous, Bound	
		RUBR 97 %	
		PAINT 3 %	
FSS-G-2	A890177	HVAC PIPE GASKET	ND
	Heterogeneous,	White, Black, Non-fibrous, Bound	
		RUBR 97 %	
		PAINT 3 %	
FSS-G-3	A890178	HVAC PIPE GASKET	ND
	Heterogeneous,	White, Black, Non-fibrous, Bound	
		RUBR 97 %	
		PAINT 3 %	

CAROLINA ENVIRONMENTAL, INC.
107 New Edition Court, Cary, NC 27511
Phone: 919-481-1415 Fax: 919-481-1442

Project: 14005-006-01

Lab Code: A09-1990

CLIENT ID	CEI LAB ID	HOMOGENEITY DESCRIPTION	% ASBESTOS
FSS-HG-1	A890179	HVAC GASKET	ND
	Heterogeneous,	Yellow, Black, Non-fibrous, Bound	
		RUBR 97 %	
		PAINT 3 %	
FSS-HG-2	A890180	HVAC GASKET	ND
	Heterogeneous,	Grey, Black, Non-fibrous, Bound	
		RUBR 97 %	
		PAINT 3 %	
FSS-HG-3	A890181	HVAC GASKET	ND
	Heterogeneous,	Grey, Black, Non-fibrous, Bound	
		RUBR 97 %	
		PAINT 3 %	
FSS-EN-1	A890182	ELECTRICAL WRAP	ND
	Homogeneous,	Black, Non-fibrous, Bound	
		PLASTIC 100 %	
FSS-EN-2	A890183	ELECTRICAL WRAP	ND
	Homogeneous,	Black, Non-fibrous, Bound	
		PLASTIC 100 %	
FSS-EN-3	A890184	ELECTRICAL WRAP	ND
	Homogeneous,	Black, Non-fibrous, Bound	
		PLASTIC 100 %	
FSS-FM-1	A890185	FLOOR MASTIC	ND
	Homogeneous,	Grey, Non-fibrous, Bound	
		RUBR 100 %	

CAROLINA ENVIRONMENTAL, INC.
107 New Edition Court, Cary, NC 27511
Phone 919-481-1413 Fax: 919-481-1442

Project: 14005-006-01

Lab Code: A09-1990

CLIENT ID	CEI LAB ID	HOMOGENEITY DESCRIPTION	% ASBESTOS
FSS-E-1	A890186	ELEVATOR DOOR	ND
	Homogeneous,	SILVER Non-fibrous, Bound	
		METAL 100 %	
FSS-E-2	A890187	ELEVATOR DOOR	ND
	Homogeneous,	SILVER Non-fibrous, Bound	
		METAL 100 %	
FSS-E-3	A890188	ELEVATOR DOOR	ND
	Homogeneous,	SILVER Non-fibrous, Bound	
		METAL 100 %	
FSS-TI-3	A890189	HVAC PIPE INSULATION (ORANGE)	ND
	Heterogeneous,	White, Brown, Fibrous, Bound	
		BIND 20 % FBGL 8 %	
		FOAM 70 % WOLL 2 %	
RSS-CI-1	A890190	CEILING INSULATION	ND
	Heterogeneous,	White, Brown, Fibrous, Loosely Bound	
		BIND 2 % FBGL 98 %	
		CELL <1 %	
RSS-CI-2	A890191	CEILING INSULATION	ND
	Heterogeneous,	White, Brown, Fibrous, Loosely Bound	
		BIND 2 % FBGL 98 %	
		CELL <1 %	
RSS-CI-3	A890192	CEILING INSULATION	ND
	Heterogeneous,	White, Brown, Fibrous, Loosely Bound	
		BIND 2 % FBGL 98 %	
		CELL <1 %	

CAROLINA ENVIRONMENTAL, INC.
107 New Edition Court, Cary, NC 27511
Phone: 919-481-1413 Fax: 919-481-1442

Project: 14005-006-01

Lab Code: A09-1990

CLIENT ID	CEI LAB ID	HOMOGENEITY DESCRIPTION				% ASBESTOS
RSS-CI-4	A890193	CEILING INSULATION				ND
	Heterogeneous,	White, Brown, Fibrous, Loosely Bound				
		BIND	2 %	FBGL	98 %	
				CELL	<1 %	
RSS-CI-5	A890194	CEILING INSULATION				ND
	Heterogeneous,	White, Brown, Fibrous, Loosely Bound				
		BIND	2 %	FBGL	98 %	
				CELL	<1 %	
RSS-DM-1	A890195	RSS DUCT MASTIC				ND
	Homogeneous,	Grey, Non-fibrous, Bound				
		BIND	100 %	FBGL	<1 %	
RSS-DM-2	A890196	RSS DUCT MASTIC				ND
	Homogeneous,	Grey, Non-fibrous, Bound				
		BIND	100 %			
RSS-DM-3	A890197	RSS DUCT MASTIC				ND
	Homogeneous,	Grey, Non-fibrous, Bound				
		BIND	100 %			
RSS-FC-1	A890198	FLOOR COVERING				ND
	Homogeneous,	Grey, Non-fibrous, Bound				
		BIND	60 %			
		SILI	40 %			
RSS-FC-2	A890199	FLOOR COVERING				ND
	Homogeneous,	Grey, Non-fibrous, Bound				
		BIND	60 %			
		SILI	40 %			

CAROLINA ENVIRONMENTAL, INC.
107 New Edition Court, Cary, NC 27511
Phone: 919-481-1413 Fax: 919-481-1442

Project: 14005-006-01

Lab Code: A09-1990

CLIENT ID	CEI LAB ID	HOMOGENEITY DESCRIPTION	% ASBESTOS
RSS-FC-3	A890200	FLOOR COVERING	ND
	Homogeneous,	Grey, Non-fibrous, Bound	
		BIND 60 %	
		SILI 40 %	
RSS-FC-4	A890201	FLOOR COVERING	ND
	Homogeneous,	Grey, Non-fibrous, Bound	
		BIND 60 %	
		SILI 40 %	
RSS-FC-5	A890202	FLOOR COVERING	ND
	Homogeneous,	Grey, Non-fibrous, Bound	
		BIND 60 %	
		SILI 40 %	
RSS-TSI-1	A890203	HVAC INSULATION	ND
	Heterogeneous,	White, Brown, Fibrous, Bound	
		BIND 5 % FBGL 3 %	
		FOAM 90 % WOLL 2 %	
RSS-TSI-2	A890204	HVAC INSULATION	ND
	Heterogeneous,	White, Brown, Fibrous, Bound	
		BIND 3 % FBGL 2 %	
		PERL 95 %	
RSS-TSI-3	A890205	HVAC INSULATION	ND
	Heterogeneous,	White, Brown, Fibrous, Bound	
		BIND 8 % FBGL 2 %	
		FOAM 90 %	
RSS-TSI-4	A890206	HVAC INSULATION	ND
	Heterogeneous,	White, Brown, Fibrous, Bound	
		BIND 8 % FBGL 2 %	
		FOAM 90 %	

CAROLINA ENVIRONMENTAL, INC.
107 New Edition Court, Cary, NC 27511
Phone: 919-481-1413 Fax: 919-481-1442

Project: 14005-006-01

Lab Code: A09-1990

CLIENT ID	CEI LAB ID	HOMOGENEITY DESCRIPTION					% ASBESTOS
RSS-TSI-5	A890207	HVAC INSULATION					ND
	Heterogeneous,	White, Brown, Fibrous, Bound					
		BIND	5 %	FBGL	3 %		
		FOAM	90 %	WOLL	2 %		
RSS-GM-1	A890208	WINCH DUCT GASKET					ND
	Homogeneous,	Grey, Non-fibrous, Bound					
		CAULK	100 %				
RSS-GM-2	A890209	WINCH DUCT GASKET					ND
	Homogeneous,	Grey, Non-fibrous, Bound					
		CAULK	100 %				
RSS-VJW-1	A890210	VACUUM JOINT WRAP					ND
	Heterogeneous,	Grey, Black, Fibrous, Bound					
		BIND	5 %	SYNT	25 %		
		RUBR	70 %				
RSS-VJW-2	A890211	VACUUM JOINT WRAP					ND
	Heterogeneous,	Grey, Black, Fibrous, Bound					
		BIND	5 %	SYNT	25 %		
		RUBR	70 %				
RSS-VJW-3	A890212	VACUUM JOINT WRAP					ND
	Heterogeneous,	Grey, Black, Fibrous, Bound					
		BIND	5 %	SYNT	25 %		
		RUBR	70 %				
RSS-VJC-1	A890213	VIBRATION JOINT CLOTH					ND
	Homogeneous,	Black, Fibrous, Bound					
		RUBR	65 %	FBGL	35 %		

CAROLINA ENVIRONMENTAL, INC.
107 New Edition Court, Cary, NC 27511
Phone: 919-481-1413 Fax: 919-481-1442

Project: 14005-006-01

Lab Code: A09-1990

CLIENT ID	CEI LAB ID	HOMOGENEITY DESCRIPTION	% ASBESTOS
RSS-VJC-2	A890214 Homogeneous,	VIBRATION JOINT CLOTH Black, Fibrous, Bound RUBR 65 % FBGL 35 %	ND
RSS-WM-1	A890214 Homogeneous,	WHITE MASTIC White, Non-fibrous, Bound BIND 100 %	ND
RSS-WM-2	A890215 Homogeneous,	WHITE MASTIC White, Non-fibrous, Bound BIND 100 %	ND
RSS-GM-1	A890216 Heterogeneous,	GRAY MASTIC Grey, Non-fibrous, Bound BIND 20 % FOAM 80 %	ND
RSS-GM-2	A890217 Heterogeneous,	GRAY MASTIC Grey, Non-fibrous, Bound BIND 20 % FOAM 80 %	ND

The following definitions apply to the abbreviations used in the ASBESTOS BULK ANALYSIS REPORT:

CHRY = Chrysotile	CELL = Cellulose	DEBR = Debris
AMOS = Amosite	FBGL = Fibrous Glass	BIND = Binder
CROC = Crocidolite	CACO = Calcium Carbonate	SILI = Silicates
TREM = Tremolite	SYNT = Synthetics	GRAV = Gravel
ANTH = Anthophyllite	WOLL = Wollastonite	MAST = Mastic
ACTN = Actinolite	CERWL = Ceramic Wool	PLAS = Plaster
N D = None Detected	NTREM = Non-Asbestiform Tremolite	PERL = Perlite
NANTH = Non-Asbestiform Anthophyllite	FBGY = Fibrous Gypsum	RUBR = Rubber
		VER = Vermiculite

CLIENT: Jones, Edmunds & Associates, Inc.

PROJECT: 14005-006-01

CEI LAB CODE: A09-1990

Stereoscopic microscopy and polarized light microscopy coupled with dispersion staining is the analytical technique used for sample identification. The percentage of each component is visually estimated by volume. These results pertain only to the samples analyzed. The samples were analyzed as submitted by the client and may not be representative of the larger material in question. Unless notified in writing to return samples, Carolina Environmental, Inc. will discard all bulk samples after 30 days.

Many vinyl floor tiles have been manufactured using greater than 1% asbestos. Often the asbestos was milled to a fiber size below the detection limit of polarized light microscopy. Therefore, a "None Detected" (ND) reading on vinyl floor tile does not necessarily exclude the presence of asbestos. Transmission electron microscopy provides a more conclusive form of analysis for vinyl floor tiles.

It is certified by the signature below that Carolina Environmental, Inc. is accredited by the National Voluntary Accreditation Program (NVLAP) for the analysis of asbestos in bulk materials. The accredited test method is EPA / 600 / M4-82 / 020 for the analysis of asbestos in building materials. Procedures described in EPA / 600 / R-93 / 116 have been incorporated where applicable. The detection limit for the method is 0.1% (trace amount). Carolina Environmental, Inc.'s NVLAP accreditation number is #101768-0. This report is not to be used to claim product endorsement by NVLAP or any agency of the U. S. Government. This report and its contents are only valid when reproduced in full. Dust and soil analyses for asbestos using PLM are not covered under NVLAP accreditation.

ANALYST _____

REVIEWED BY _____

Tianbao Bai, Ph.D.
Laboratory Director

End of Report

A09-1990 (53)
A890166, A890218

CAROLINA ENVIRONMENTAL, INC.
107 New Edition Court, Cary, NC 27511
Tel: 866-481-1412; Fax: 919-481-1442

CHAIN OF CUSTODY RECORD
ASBESTOS/LEAD ANALYSIS

Client: Jones Edmunds	Project Manager: Javier DuQuesne
Address: 3910 S. Washington Ave., Ste 210	Phone: 321-269-2950
Titusville, FL 32780	Fax: 321-269-2951
EMail: JDuquesne@jonesedmunds.com	
PO #: 14005-006-01	

PROJECT DESCRIPTION	PROJECT CODE	ASBESTOS: PLM Bulk	PLM Point Count	PLM Gravimetric	PCM Air	TEM Bulk*	TEM Air*	LEAD PAINT: Lead Paint*	Lead Wipe*	Lead Soil*	Lead Air*	Other Analysis
Floor Mastic	FSS-FM-2	X										
Floor Mastic	FSS-FM-3	X										
Spray Covering	FSS-SM-1	X										
" "	FSS-SM-2	X										
" "	FSS-SM-3	X										
Pipe Insulation	FSS-TSI-1	X										
" "	FSS-TSI-2	X										
" "	FSS-TSI-3	X										
HVAC Pipe Insulation (orgn)	FSS-TI-1	X										
"	FSS-TI-2	X										

TURN-AROUND TIME
*Lead and TEM results require 48 Hour TAT or longer

- ☐ 5 DAYS
- ☐ 3 DAYS
- ☒ 48 HOURS
- ☐ 24 HOURS*
- ☐ 4 HOURS*

CLIENT ID#

REMARKS: Please email results to JDuquesne@jonesedmunds.com and Krivera@jonesedmunds.com.

- ☑ Accept Samples
- ☐ Reject Samples

Samples will be disposed of 30 days after analysis, unless otherwise requested.

Relinquished By:	Date / Time:	Received By:	Date / Time:
[signature]	3/26/09 / 6:15pm	Kristi Nutt	033109 10:20am
Relinquished By:	Date / Time:	Received By:	Date / Time:

A09-1990 Page 2 of 6

CAROLINA ENVIRONMENTAL, INC.

107 New Edition Court, Cary, NC 27511
Tel: 866-481-1412; Fax: 919-481-1442

CHAIN OF CUSTODY RECORD
ASBESTOS/LEAD ANALYSIS

Client: Jones Edmunds	Project Manager: Javier DuQuesne
Address: 3910 S. Washington Ave., Ste 210	Phone: 321-269-2950
Titusville, FL 32780	Fax: 321-269-2951
EMail: JDuquesne@jonesedmunds.com	
PO #: 14005-006-01	

PROJECT DESCRIPTION	PROJECT CODE	ASBESTOS: PLM Bulk	ASBESTOS: PLM Point Count	ASBESTOS: PLM Gravimetric	ASBESTOS: PCM Air	ASBESTOS: TEM Bulk*	ASBESTOS: TEM Air*	LEAD PAINT: Lead Paint*	LEAD PAINT: Lead Wipe*	LEAD PAINT: Lead Soil*	LEAD PAINT: Lead Air*	Other Analysis
HVAC Pipe Gasket	FSS-G-1	X										
HVAC Pipe Gasket	FSS-G-2	X										
" " "	FSS-G-3	X										
HVAC Gasket	FSS-HG-1	X										
" " "	FSS-HG-2	X										
" " "	FSS-HG-3	X										
Electrical Wrap	FSS-EW-1	X										
" "	FSS-EW-2	X										
" "	FSS-EW-3	X										
Floor Mastic	FSS-FM-1	X										

TURN-AROUND TIME
** Lead and TEM results require 48 Hour TAT or longer*

- ☐ 5 DAYS
- ☐ 3 DAYS
- ☒ 48 HOURS
- ☐ 24 HOURS*
- ☐ 4 HOURS*

CLIENT ID#

REMARKS: Please email results to JDuquesne@jonesedmunds.com and Krivera@jonesedmunds.com.

- ☐ Accept Samples
- ☐ Reject Samples

Samples will be disposed of 30 days after analysis, unless otherwise requested.

Relinquished By:	Date / Time:	Received By:	Date / Time:
[signature]	3/26/09 / 6:15pm		
Relinquished By:	Date / Time:	Received By:	Date / Time:

A09-1990 Page 3 of 6

CAROLINA ENVIRONMENTAL, INC.
107 New Edition Court, Cary, NC 27511
Tel: 866-481-1412; Fax: 919-481-1442

CHAIN OF CUSTODY RECORD
ASBESTOS/LEAD ANALYSIS

Client: Jones Edmunds	Project Manager: Javier DuQuesne
Address: 3910 S. Washington Ave., Ste 210	Phone: 321-269-2950
Titusville, FL 32780	Fax: 321-269-2951
EMail: JDuquesne@jonesedmunds.com	
PO #: 14005-006-01	

PROJECT DESCRIPTION	PROJECT CODE	ASBESTOS: PLM Bulk	ASBESTOS: PLM Point Count	ASBESTOS: PLM Gravimetric	ASBESTOS: PCM Air	ASBESTOS: TEM Bulk*	ASBESTOS: TEM Air*	LEAD PAINT: Lead Paint*	LEAD PAINT: Lead Wipe*	LEAD PAINT: Lead Soil*	LEAD PAINT: Lead Air*	Other Analysis
Elevator Door	FSS-E-1	X										
Elevator Door	FSS-E-2	X										
Elevator Door	FSS-E-3	X										
HVAC Pipe Insul. (orange)	FSS-TI-3	X										
Ceiling Insulation	RSS-CI-1	X										
Ceiling Insulation	RSS-CI-2	X										
" "	RSS-CI-3	X										
" "	RSS-CI-4	X										
" "	RSS-CI-5	X										
RSS Duct Mastic	RSS-DM-1	X										

TURN-AROUND TIME

* Lead and TEM results require 48 Hour TAT or longer

- ☐ 5 DAYS
- ☐ 3 DAYS
- ☒ 48 HOURS
- ☐ 24 HOURS*
- ☐ 4 HOURS*

CLIENT ID#

REMARKS: Please email results to JDuquesne@jonesedmunds.com and Krivera@jonesedmunds.com.

- ☐ Accept Samples
- ☐ Reject Samples

Samples will be disposed of 30 days after analysis, unless otherwise requested.

Relinquished By:	Date / Time:	Received By:	Date / Time:
[signature]	3/26/09 / 6:15pm		
Relinquished By:	Date / Time:	Received By:	Date / Time:

CAROLINA ENVIRONMENTAL, INC.
107 New Edition Court, Cary, NC 27511
Tel: 866-481-1412; Fax: 919-481-1442

CHAIN OF CUSTODY RECORD
ASBESTOS/LEAD ANALYSIS

Client: Jones Edmunds	Project Manager: Javier DuQuesne
Address: 3910 S. Washington Ave., Ste 210	Phone: 321-269-2950
Titusville, FL 32780	Fax: 321-269-2951
EMail: JDuquesne@jonesedmunds.com	
PO #: 14005-006-01	

PROJECT DESCRIPTION	PROJECT CODE	ASBESTOS: PLM Bulk	ASBESTOS: PLM Point Count	ASBESTOS: PLM Gravimetric	ASBESTOS: PCM Air	ASBESTOS: TEM Bulk*	ASBESTOS: TEM Air*	LEAD PAINT: Lead Paint*	LEAD PAINT: Lead Wipe*	LEAD PAINT: Lead Soil*	LEAD PAINT: Lead Air*	Other Analysis
Duct Mastic	RSS-DM-2	X										
" "	RSS-DM-3	X										
Floor Covering	RSS-FC-1	X										
"	RSS FC-2	X										
"	RSS FC-3	X										
"	RSS FC-4	X										
"	RSS FC-5	X										
HVAC Insulation	RSS-TSI-1	X										
"	RSS-TSI-2	X										
"	RSS-TSI-3	X										

TURN-AROUND TIME
* Lead and TEM results require 48 Hour TAT or longer

- ☐ 5 DAYS
- ☐ 3 DAYS
- ☒ 48 HOURS
- ☐ 24 HOURS*
- ☐ 4 HOURS*

CLIENT ID#

REMARKS: Please email results to JDuquesne@jonesedmunds.com and Krivera@jonesedmunds.com.

- ☐ Accept Samples
- ☐ Reject Samples

Samples will be disposed of 30 days after analysis, unless otherwise requested.

Relinquished By:	Date / Time:	Received By:	Date / Time:
[signature]	3/26/09 / 6:15PM		
Relinquished By:	Date / Time:	Received By:	Date / Time:

A09-1990 Page 5 of 6

CAROLINA ENVIRONMENTAL, INC.

107 New Edition Court, Cary, NC 27511
Tel: 866-481-1412; Fax: 919-481-1442

CHAIN OF CUSTODY RECORD
ASBESTOS/LEAD ANALYSIS

Client: Jones Edmunds	Project Manager: Javier DuQuesne
Address: 3910 S. Washington Ave., Ste 210	Phone: 321-269-2950
Titusville, FL 32780	Fax: 321-269-2951
EMail: JDuquesne@jonesedmunds.com	
PO #: 14005-006-01	

PROJECT DESCRIPTION	PROJECT CODE	ASBESTOS: PLM Bulk	ASBESTOS: PLM Point Count	ASBESTOS: PLM Gravimetric	ASBESTOS: PCM Air	ASBESTOS: TEM Bulk*	ASBESTOS: TEM Air*	LEAD PAINT: Lead Paint*	LEAD PAINT: Lead Wipe*	LEAD PAINT: Lead Soil*	LEAD PAINT: Lead Air*	Other Analysis
HVAC Insulation	RSS-TSI-4	X										
" "	RSS-TSI-5	X										
Winch Duct Gasket	RSS-GM-1	X										
" " "	RSS-GM-2	X										
Vacuum Joint Wrap	RSS-VJW-1	X										
"	RSS-VJW-2	X										
"	RSS-VJW-3	X										
Vibration Joint Cloth	RSS-VJC-1	X										
" "	RSS-VJC-2	X										
White Mastic	RSS-WM-1	X										

TURN-AROUND TIME

* Lead and TEM results require 48 Hour TAT or longer

- ☐ 5 DAYS
- ☐ 3 DAYS
- ☒ 48 HOURS
- ☐ 24 HOURS*
- ☐ 4 HOURS*

CLIENT ID#

REMARKS: Please email results to JDuquesne@jonesedmunds.com and Krivera@jonesedmunds.com.

- ☐ Accept Samples
- ☐ Reject Samples

Samples will be disposed of 30 days after analysis, unless otherwise requested.

Relinquished By:	Date / Time:	Received By:	Date / Time:
[signature]	3/26/09 / 6:15pm		
Relinquished By:	Date / Time:	Received By:	Date / Time:

A09-1990 Page 6 of 6

CAROLINA ENVIRONMENTAL, INC.

107 New Edition Court, Cary, NC 27511
Tel: 866-481-1412; Fax: 919-481-1442

CHAIN OF CUSTODY RECORD
ASBESTOS/LEAD ANALYSIS

Client: Jones Edmunds	Project Manager: Javier DuQuesne
Address: 3910 S. Washington Ave., Ste 210	Phone: 321-269-2950
Titusville, FL 32780	Fax: 321-269-2951
EMail: JDuquesne@jonesedmunds.com	
PO #: 14005-006-01	

PROJECT DESCRIPTION	PROJECT CODE	ASBESTOS: PLM Bulk	PLM Point Count	PLM Gravimetric	PCM Air	TEM Bulk*	TEM Air*	LEAD PAINT: Lead Paint*	Lead Wipe*	Lead Soil*	Lead Air*	Other Analysis
White Mastic	RSS-WM-2	X										
Gray Mastic	RSS-GM-1	X										
Gray Mastic	RSS-GM-2	X										

TURN-AROUND TIME
** Lead and TEM results require 48 Hour TAT or longer*

- ☐ 5 DAYS
- ☐ 3 DAYS
- ☒ 48 HOURS
- ☐ 24 HOURS*
- ☐ 4 HOURS*

CLIENT ID#

REMARKS: Please email results to JDuquesne@jonesedmunds.com and Krivera@jonesedmunds.com.

- ☐ Accept Samples
- ☐ Reject Samples

Samples will be disposed of 30 days after analysis, unless otherwise requested.

Relinquished By:	Date / Time:	Received By:	Date / Time:
[signature]	3/26/09 / 6:15pm		
Relinquished By:	Date / Time:	Received By:	Date / Time:

CAROLINA ENVIRONMENTAL, INC.
107 New Edition Court, Cary, NC 27511
Phone: (919) 481-1413 Fax: (919) 481-1442

LABORATORY REPORT
ASBESTOS BULK ANALYSIS

Client: **Jones, Edmunds & Associates, Inc.**
3910 S. Washington Ave Suite 210
Titusville , FL 32780

Project: 14005-006-01

CEI Lab Code: A09-2631
Received: 04-24-09
Analyzed: 04-28-09
Reported: 04-28-09
Analyst: Erica Tucker

CLIENT ID	CEI LAB ID	HOMOGENEITY DESCRIPTION				% ASBESTOS
DGM-1	A899089	MASTIC				ND
	Homogeneous,	Grey, Fibrous, Bound				
		MAST	98 %	CELL	2 %	
DGM-2	A899090	MASTIC				ND
	Homogeneous,	Grey, Fibrous, Bound				
		MAST	98 %	CELL	2 %	
DGM-3	A899091	MASTIC				ND
	Homogeneous,	Grey, Fibrous, Bound				
		MAST	98 %	CELL	2 %	
WM-1	A899092	WALL MASTIC				ND
	Heterogeneous,	Grey, Fibrous, Bound				
		MAST	98 %	CELL	2 %	
		PAINT	<1 %			
WM-2	A899093	WALL MASTIC				ND
	Heterogeneous,	Grey, Fibrous, Bound				
		MAST	98 %	CELL	2 %	
		PAINT	<1 %			

The following definitions apply to the abbreviations used in the ASBESTOS BULK ANALYSIS REPORT:

CHRY = Chrysotile	CELL = Cellulose	DEBR = Debris
AMOS = Amosite	FBGL = Fibrous Glass	BIND = Binder
CROC = Crocidolite	CACO = Calcium Carbonate	SILI = Silicates
TREM = Tremolite	SYNT = Synthetics	GRAV = Gravel
ANTH = Anthophyllite	WOLL = Wollastonite	MAST = Mastic
ACTN = Actinolite	CERWL = Ceramic Wool	PLAS = Plaster
N D = None Detected	NTREM = Non-Asbestiform Tremolite	PERL = Perlite
NANTH = Non-Asbestiform Anthophyllite	FBGY = Fibrous Gypsum	RUBR = Rubber
		VER = Vermiculite

CLIENT: Jones, Edmunds & Associates, Inc.

PROJECT: 14005-006-01

CEI LAB CODE: A09-2631

Stereoscopic microscopy and polarized light microscopy coupled with dispersion staining is the analytical technique used for sample identification. The percentage of each component is visually estimated by volume. These results pertain only to the samples analyzed. The samples were analyzed as submitted by the client and may not be representative of the larger material in question. Unless notified in writing to return samples, Carolina Environmental, Inc. will discard all bulk samples after 30 days.

Many vinyl floor tiles have been manufactured using greater than 1% asbestos. Often the asbestos was milled to a fiber size below the detection limit of polarized light microscopy. Therefore, a "None Detected" (ND) reading on vinyl floor tile does not necessarily exclude the presence of asbestos. Transmission electron microscopy provides a more conclusive form of analysis for vinyl floor tiles.

It is certified by the signature below that Carolina Environmental, Inc. is accredited by the National Voluntary Accreditation Program (NVLAP) for the analysis of asbestos in bulk materials. The accredited test method is EPA / 600 / M4-82 / 020 for the analysis of asbestos in building materials. Procedures described in EPA / 600 / R-93 / 116 have been incorporated where applicable. The detection limit for the method is 0.1% (trace amount). Carolina Environmental, Inc.'s NVLAP accreditation number is #101768-0. This report is not to be used to claim product endorsement by NVLAP or any agency of the U. S. Government. This report and its contents are only valid when reproduced in full. Dust and soil analyses for asbestos using PLM are not covered under NVLAP accreditation.

ANALYST

REVIEWED BY

Tienbao Bai, Ph.D.
Laboratory Director

End of Report

A09.2631 (5)
A899089 A899093

CAROLINA ENVIRONMENTAL, INC.
107 New Edition Court, Cary, NC 27511
Tel: 866-481-1412; Fax: 919-481-1442

CHAIN OF CUSTODY RECORD
ASBESTOS/LEAD ANALYSIS

Client: Jones Edmunds	Project Manager: Javier DuQuesne
Address: 3910 S. Washington Ave., Ste 210	Phone: 321-269-2950
Titusville, FL 32780	Fax: 321-269-2951
EMail: JDuquesne@jonesedmunds.com	
PO #: 14005-006-01	

PROJECT DESCRIPTION	PROJECT CODE	ASBESTOS: PLM Bulk	ASBESTOS: PLM Point Count	ASBESTOS: PLM Gravimetric	ASBESTOS: PCM Air	ASBESTOS: TEM Bulk*	ASBESTOS: TEM Air*	LEAD PAINT: Lead Paint*	LEAD PAINT: Lead Wipe*	LEAD PAINT: Lead Soil*	LEAD PAINT: Lead Air*	Other Analysis
Dark Gray Mastic RSS	DGM-1	X										
Dark Gray Mastic, RSS	DGM-2	X										
Dark Gray Mastic, RSS	DGM-3	X										
Wall Mastic, Corrugated, RSS	WM-1	X										
Wall Mastic, Corrugated, RSS	WM-2	X										

TURN-AROUND TIME
* Lead and TEM results require 48 Hour TAT or longer

- ☐ 5 DAYS
- ☐ 3 DAYS
- ☒ 48 HOURS
- ☐ 24 HOURS*
- ☐ 4 HOURS*

CLIENT ID#

Samples will be disposed of 30 days after analysis, unless otherwise requested.

REMARKS: Please email results to JDuquesne@jonesedmunds.com and Krivera@jonesedmunds.com.

- ☒ Accept Samples
- ☐ Reject Samples

Relinquished By:	Date / Time: 4/22/09 / 3:30pm	Received By: Kristy Scott	Date / Time: 042409 10:30am
Relinquished By:	Date / Time:	Received By:	Date / Time:

APPENDIX C

ASBESTOS INSPECTORS' FIELD NOTES AND PHOTOGRAPHS

ASBESTOS SAMPLE FORM

PROJECT NAME Launch Complex 39B Project #: 14005-006-01

INSPECTORS Javier Du Quesne, Tom Murray

Project Date: March 26, 2009 Report Date: June 2009

Inspection Location: Launch Complex 39B

Sample Location: Fixed Service Structure Est. Quantity: 100 LF

Homogeneous Area No.: 1 Sample No.: TSI-1, TSI-2, TSI-3

Material Type: Valves Elbows and Tees

Description Off-white mastic, foam glass, wrap

% Asbestos: N/A Type Asb.: N/A

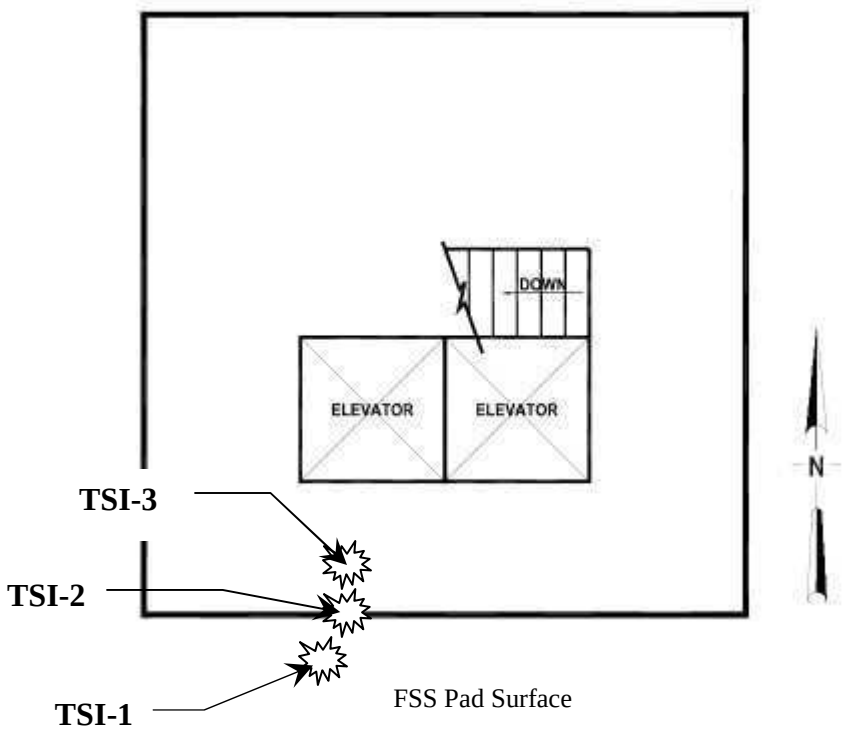
Asbestos Response Priority:

Present Condition

Poor (Sign. Damage) >10%	Fair (Damaged) 0-10%	Good (Undamaged) 0%

Friable? ☒ yes or ☐ no

SKETCH / PHOTOGRAPH NO.:




FSS-TSI-1


FSS-TSI
-2


ESS-TS1-3

ASBESTOS SAMPLE FORM

PROJECT NAME Launch Complex 39B Project #: 14005-006-01

INSPECTORS Javier Du Quesne, Tom Murray

Project Date: March 26, 2009 Report Date: June 2009

Inspection Location: Launch Complex 39B

Sample Location: Fixed Service Structure Est. Quantity: 800 SF

Homogeneous Area No.: 2 Sample No.: E-1, E-2, E-3

Material Type: Elevator Doors

Description Fiberglass, Epoxy

% Asbestos: N/A Type Asb.: N/A

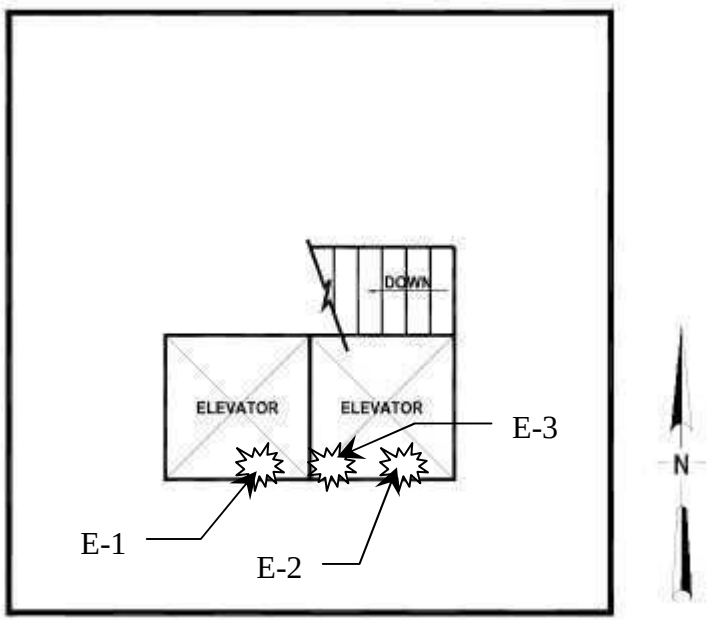
Asbestos Response Priority:

Present Condition

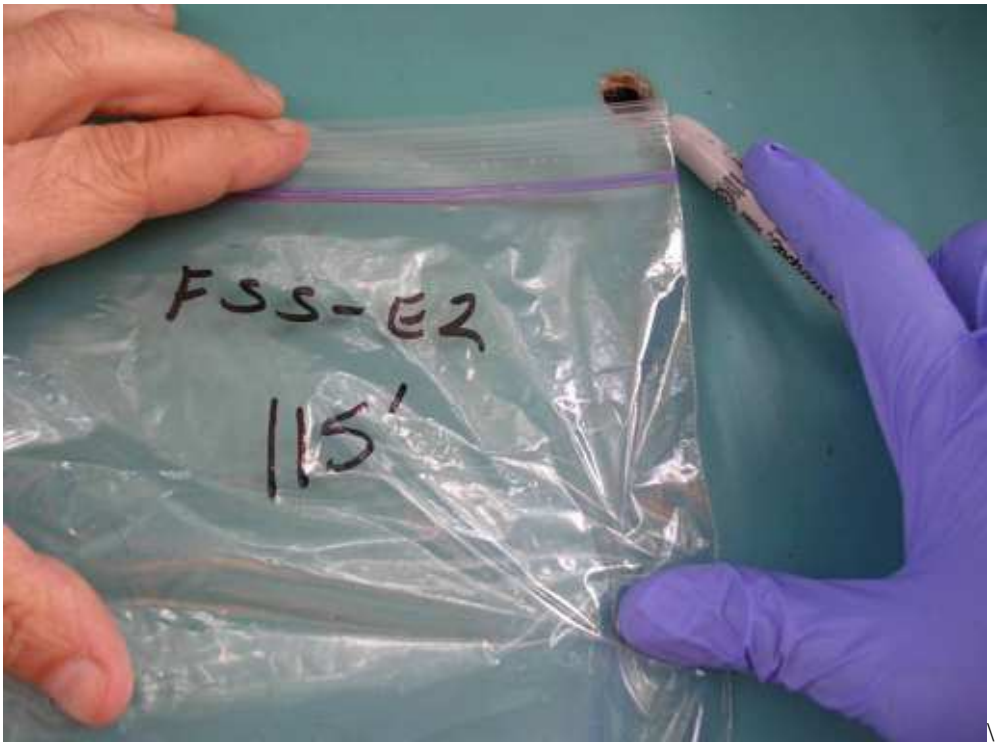
Poor (Sign. Damage) >10%	Fair (Damaged) 0-10%	Good (Undamaged) 0%

Friable? ☐ yes or ☒ no

SKETCH / PHOTOGRAPH NO.:



FSS Pad Surface, LVL 115


FSS-E2
115'

ASBESTOS SAMPLE FORM

PROJECT NAME Launch Complex 39B Project #: 14005-006-01

INSPECTORS Javier Du Quesne, Tom Murray

Project Date: March 26, 2009 Report Date: June 2009

Inspection Location: Launch Complex 39B

Sample Location: Fixed Service Structure Est. Quantity: 126 SF

Homogeneous Area No.: 3 Sample No.: FM-1, FM-2, FM-3

Material Type: Miscellaneous Materials (Mastic)

Description Pink and Gray Mastic on floor

% Asbestos: N/A Type Asb.: N/A

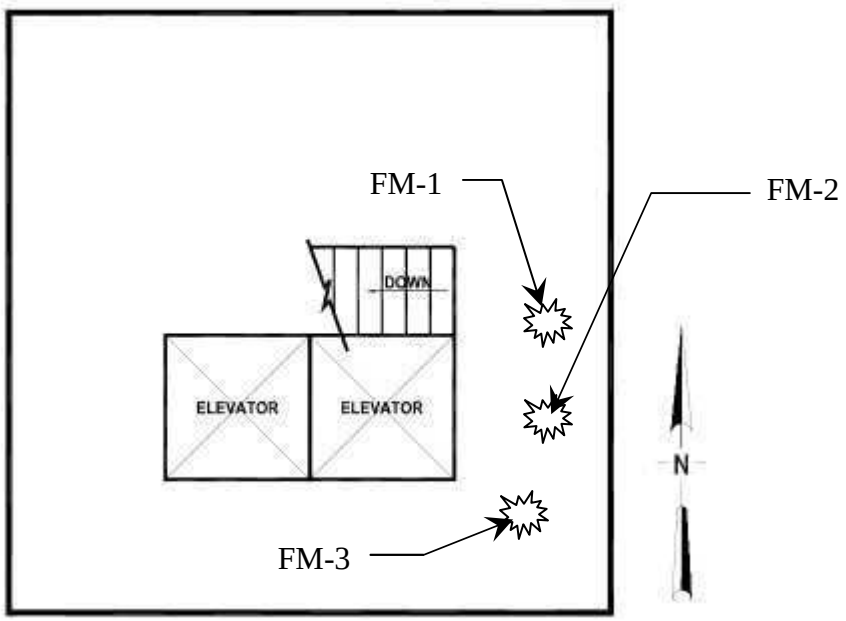
Asbestos Response Priority:

Present Condition

Poor (Sign. Damage) >10%	Fair (Damaged) 0-10%	Good (Undamaged) 0%

Friable? ☐ yes or ☒ no

SKETCH / PHOTOGRAPH NO.:



FSS LVL 95'


FSS-FM
-1


FSS-FM-2


1
FSS
FM
-3

ASBESTOS SAMPLE FORM

PROJECT NAME Launch Complex 39B Project #: 14005-006-01

INSPECTORS Javier Du Quesne, Tom Murray

Project Date: March 26, 2009 Report Date: June 2009

Inspection Location: Launch Complex 39B

Sample Location: Fixed Service Structure Est. Quantity: 448 SF

Homogeneous Area No.: 4 Sample No.: SM-1, SM-2, SM-3

Material Type: Miscellaneous Materials (Insulation)

Description Sprayed insulation on interior of storage container

% Asbestos: N/A Type Asb.: N/A

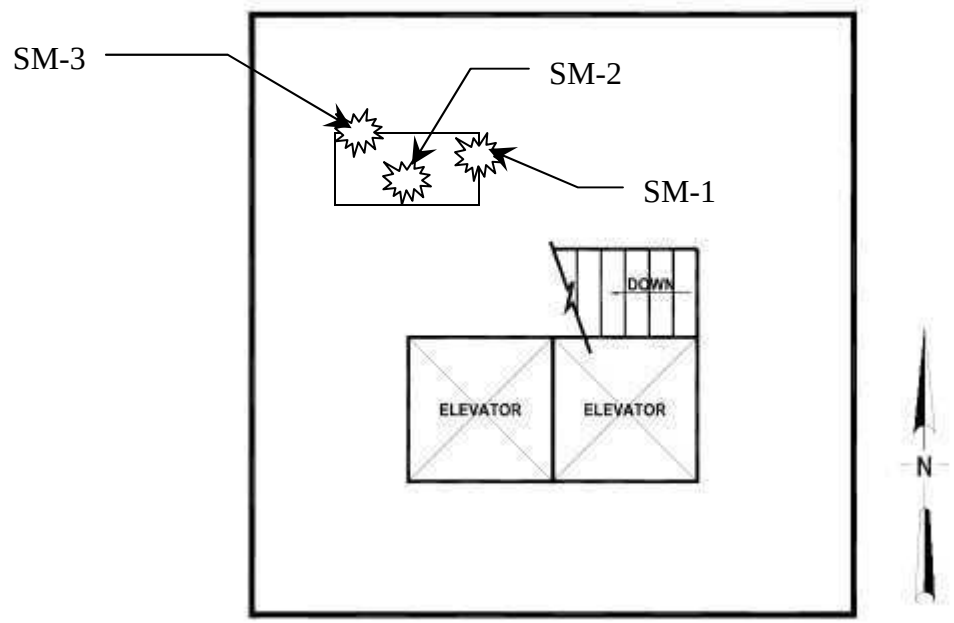
Asbestos Response Priority:

Present Condition

Poor (Sign. Damage) >10%	Fair (Damaged) 0-10%	Good (Undamaged) 0%

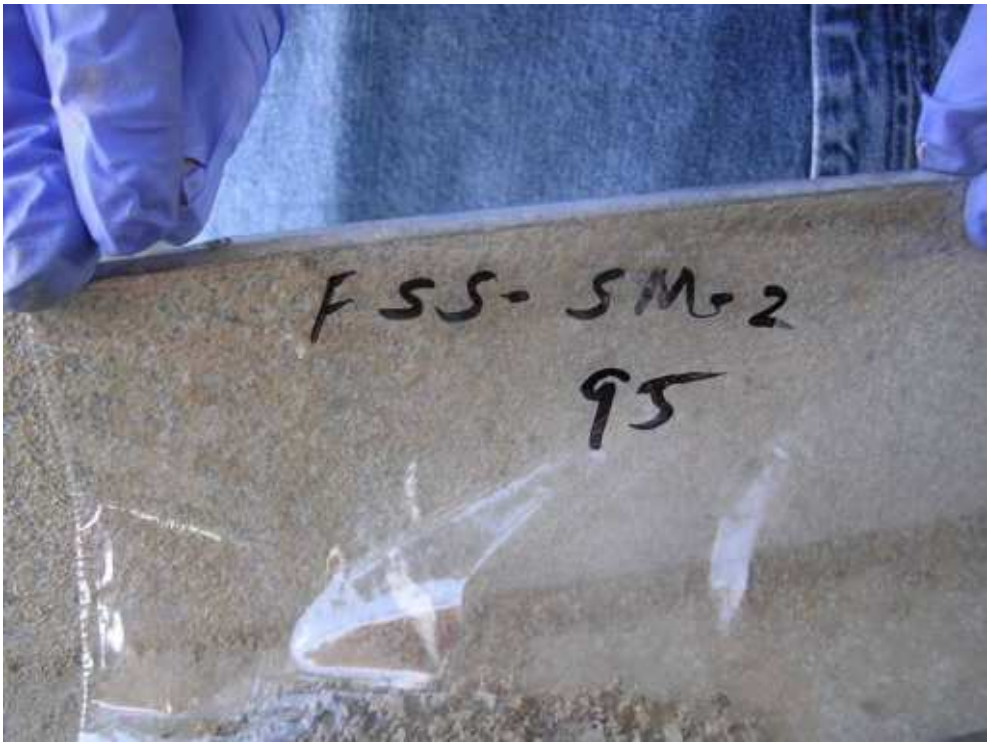
Friable? ☒ yes or ☐ no

SKETCH / PHOTOGRAPH NO.:



FSS LVL 95


FSS-5M-1
95


FSS-5M-2
95


FSS-SM-2
95


FSS-SM-2
95

ASBESTOS SAMPLE FORM

PROJECT NAME Launch Complex 39B Project #: 14005-006-01

INSPECTORS Javier Du Quesne, Tom Murray

Project Date: March 26, 2009 Report Date: June 2009

Inspection Location: Launch Complex 39B

Sample Location: Fixed Service Structure Est. Quantity: 200,000 LF

Homogeneous Area No.: 5 Sample No.: EW-1, EW-2, EW-3

Material Type: Miscellaneous Materials (Insulation)

Description Black insulation on electrical wiring

% Asbestos: N/A Type Asb.: N/A

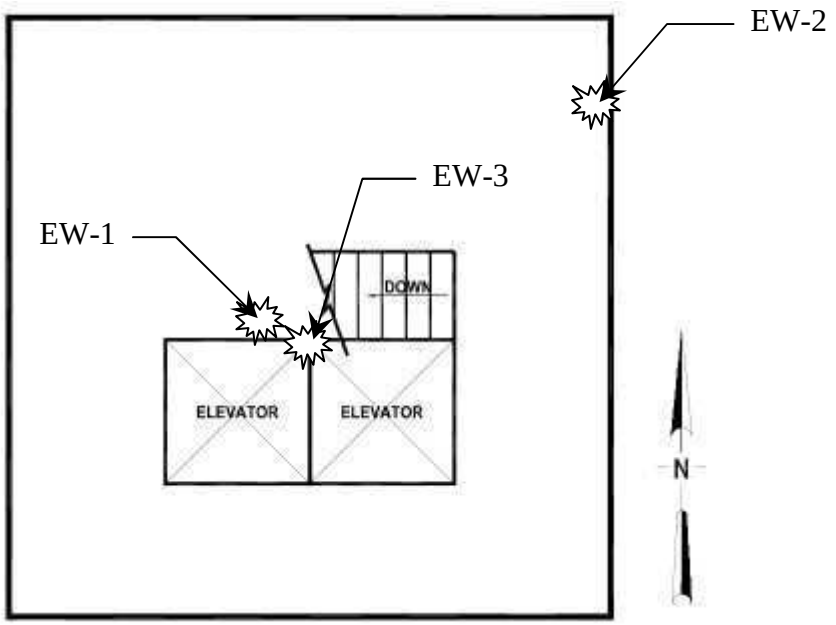
Asbestos Response Priority:

Present Condition

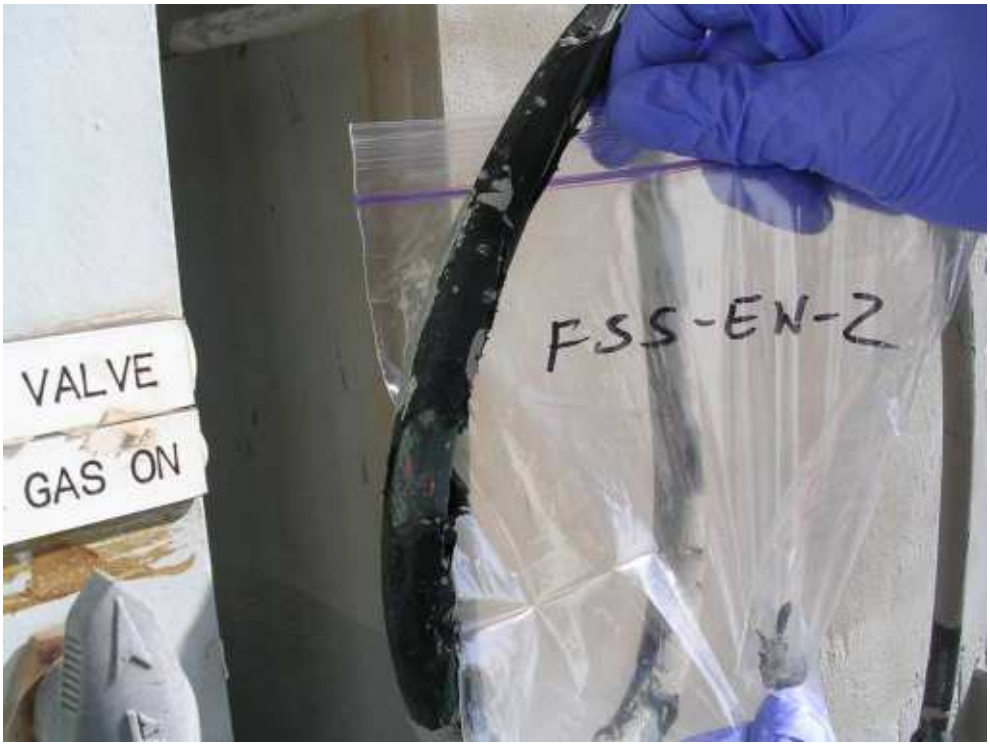
Poor (Sign. Damage) >10%	Fair (Damaged) 0-10%	Good (Undamaged) 0%

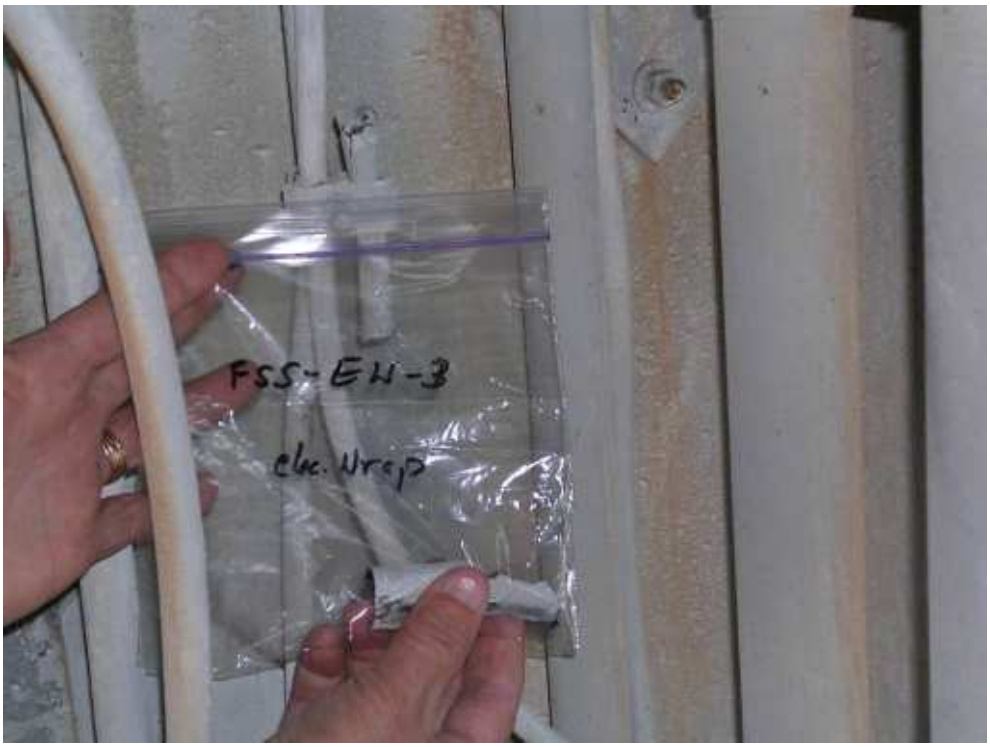
Friable? ☐ yes or ☒ no

SKETCH / PHOTOGRAPH NO.:



FSS Pad Surface, LVL 115, LVL 195


VALVE
GAS ON
FSS-EN-2


FSS-EH-3
Elec. Trap

ASBESTOS SAMPLE FORM

PROJECT NAME Launch Complex 39B Project #: 14005-006-01

INSPECTORS Javier Du Quesne, Tom Murray

Project Date: March 26, 2009 Report Date: June 2009

Inspection Location: Launch Complex 39B

Sample Location: Fixed Service Structure / Rotating Service Structure Est. Quantity: 412 EA

Homogeneous Area No.: 6 Sample No.: G-1,G-2,G-3

Material Type: Miscellaneous Materials (Gasket)

Description Black Gasket

% Asbestos: N/A Type Asb.: N/A

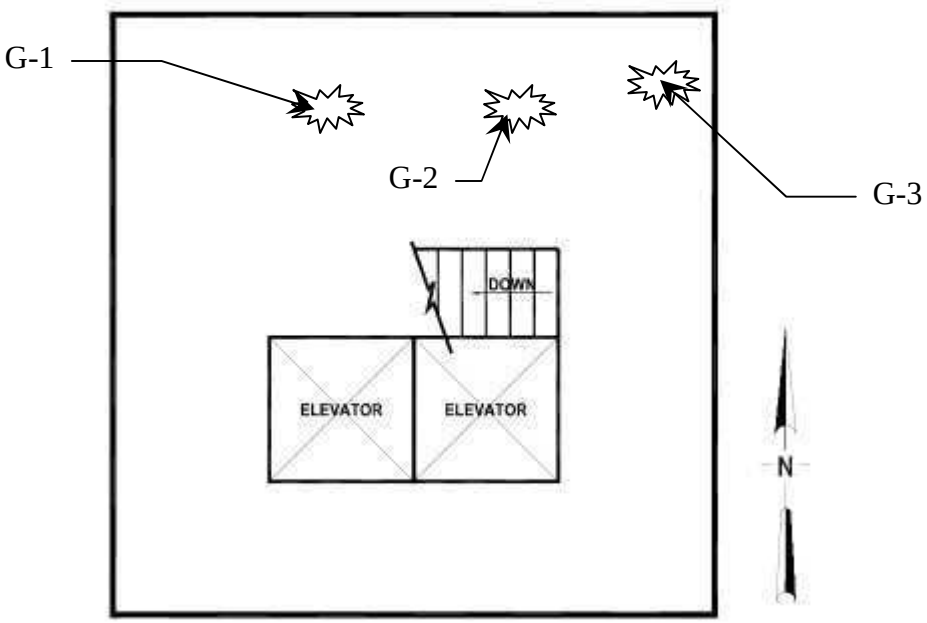
Asbestos Response Priority:

Present Condition

Poor (Sign. Damage) >10%	Fair (Damaged) 0-10%	Good (Undamaged) 0%

Friable? ☐ yes or ☒ no

SKETCH / PHOTOGRAPH NO.:



FSS LVL 203 (ET/IT PLATFORM), RSS


FSS-G-1


FSS
G-2


FS1
G-3

ASBESTOS SAMPLE FORM

PROJECT NAME	Launch Complex 39B	Project #:	14005-006-01
INSPECTORS	Javier Du Quesne, Tom Murray		
Project Date:	March 26, 2009	Report Date:	June 2009
Inspection Location:	Launch Complex 39B		
Sample Location:	Fixed Service Structure	Est. Quantity:	10,000 SF
Homogeneous Area No.:	7	Sample No.:	Non-Suspect
Material Type:	Corrugated Panels		
Description	Corrugated Metal Panels, Mastic, Paint		
% Asbestos:	N/A	Type Asb.:	N/A

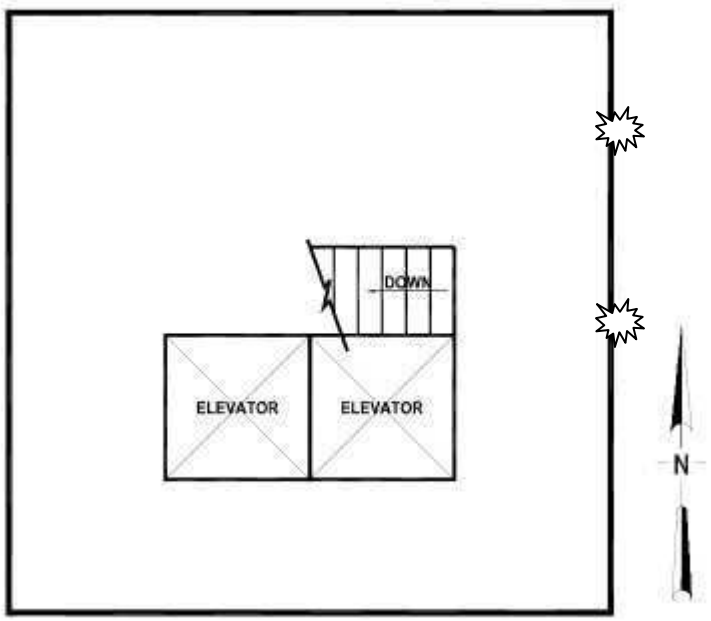
Asbestos Response Priority:

Present Condition

Poor	Fair	Good
(Sign. Damage)	(Damaged)	(Undamaged)
>10%	0-10%	0%

Friable? ☐ yes or ☒ no

SKETCH / PHOTOGRAPH NO.:



FSS LVL 203 (ET/IT PLATFORM)

ASBESTOS SAMPLE FORM

PROJECT NAME Launch Complex 39B Project #: 14005-006-01

INSPECTORS Javier Du Quesne, Tom Murray

Project Date: March 26, 2009 Report Date: June 2009

Inspection Location: Launch Complex 39B

Sample Location: Fixed Service Structure Est. Quantity: 200 LF

Homogeneous Area No.: 8 Sample No.: TI-1, TI-2, TI-3

Material Type: HVAC Duct Insulation

Description White Mastic, Wrap, Insulation

% Asbestos: N/A Type Asb.: N/A

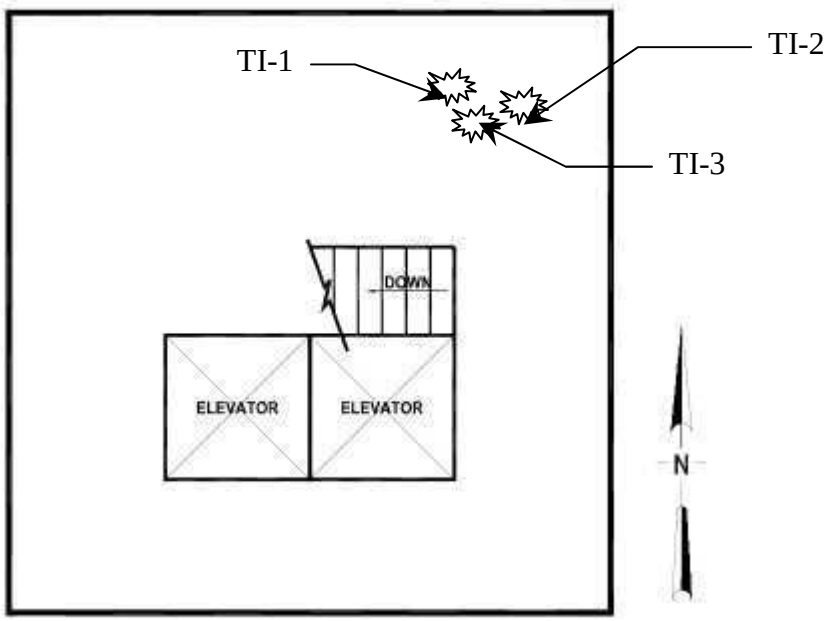
Asbestos Response Priority:

Present Condition

Poor (Sign. Damage) >10%	Fair (Damaged) 0-10%	Good (Undamaged) 0%

Friable? ☒ yes or ☐ no

SKETCH / PHOTOGRAPH NO.:



203 (ET/IT PLATFORM)


FSS-TI-1
HVAC


FSS-TI-2
HVAC

ASBESTOS SAMPLE FORM

PROJECT NAME Launch Complex 39B Project #: 14005-006-01

INSPECTORS Javier Du Quesne, Tom Murray

Project Date: March 26, 2009 Report Date: June 2009

Inspection Location: Launch Complex 39B

Sample Location: Rotating Service Structure Est. Quantity: 1,450 SF

Homogeneous Area No.: 9 Sample No.: CI-1, CI-2, CI-3, CI-4, CI-5

Material Type: Ceiling Materials (Insulation)

Description Wrap; Fiberglass; White Mastic

% Asbestos: N/A Type Asb.: N/A

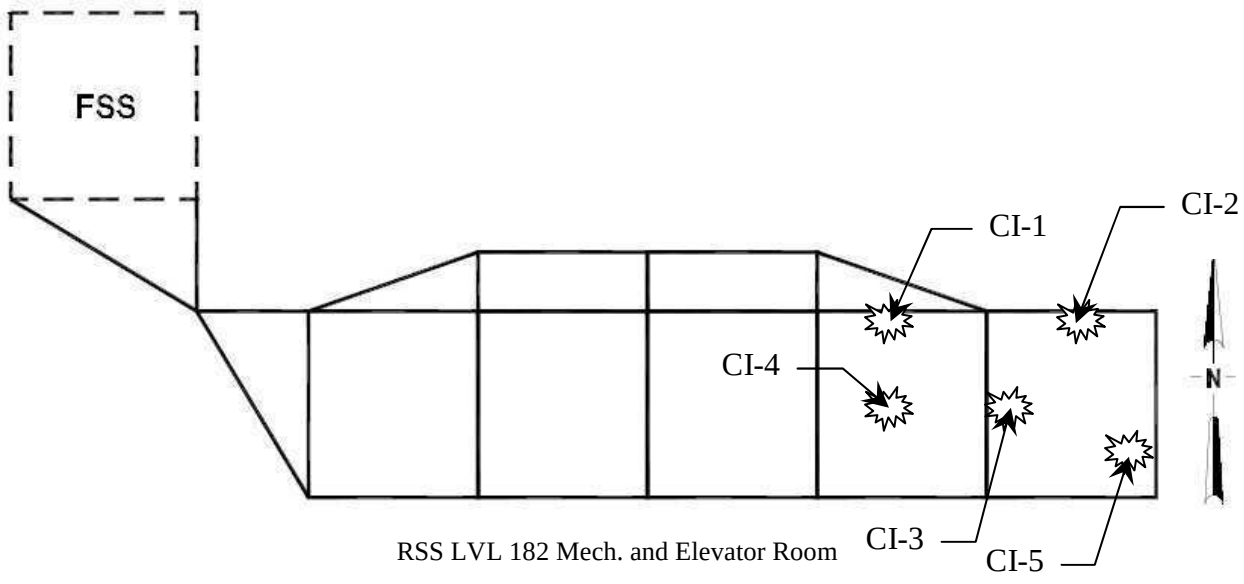
Asbestos Response Priority:

Present Condition

Poor (Sign. Damage) >10%	Fair (Damaged) 0-10%	Good (Undamaged) 0%

Friable? ☒ yes or ☐ no

SKETCH / PHOTOGRAPH NO.:




RSS
CI-1


RSS
CI-2


R35
CH-3


JAD
R55
CI-4
10/26/09


R55
CI-5
JAD

ASBESTOS SAMPLE FORM

PROJECT NAME Launch Complex 39B Project #: 14005-006-01

INSPECTORS Javier Du Quesne, Tom Murray

Project Date: March 26, 2009 Report Date: June 2009

Inspection Location: Launch Complex 39B

Sample Location: Rotating Service Structure Est. Quantity: 30 SF

Homogeneous Area No.: 10 Sample No.: DM-1, DM-2

Material Type: Miscellaneous Materials (Mastic)

Description Brownish Gray Mastic on HVAC

% Asbestos: N/A Type Asb.: N/A

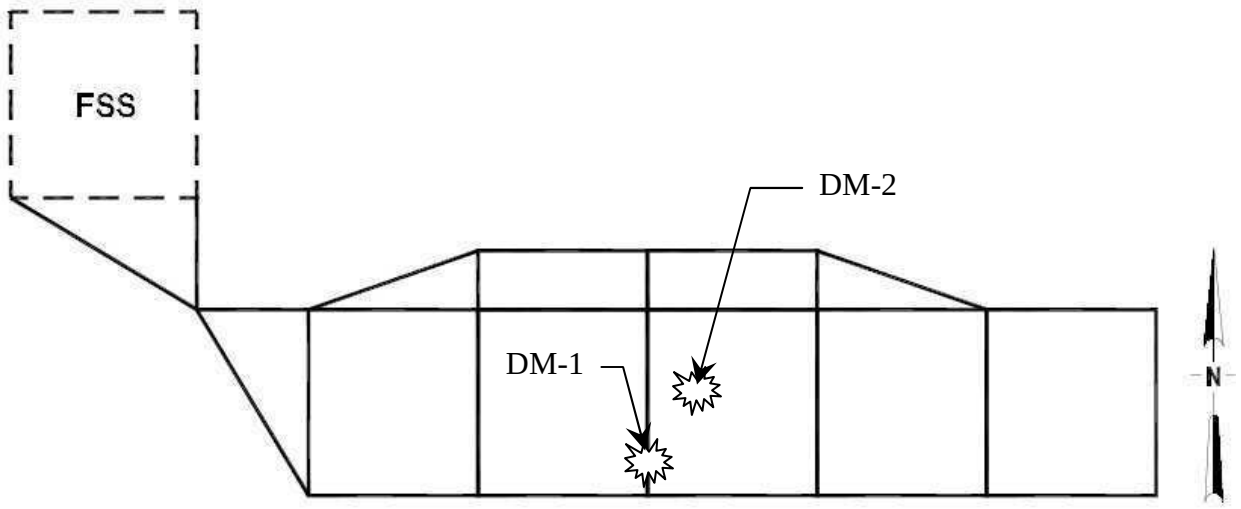
Asbestos Response Priority:

Present Condition

Poor (Sign. Damage) >10%	Fair (Damaged) 0-10%	Good (Undamaged) 0%

Friable? ☐ yes or ☒ no

SKETCH / PHOTOGRAPH NO.:



RSS LVL 182 Mechanical Room


JAD
RSS
DM-1
Medium


RSS
DM-2

ASBESTOS SAMPLE FORM

PROJECT NAME Launch Complex 39B Project #: 14005-006-01

INSPECTORS Javier Du Quesne, Tom Murray

Project Date: March 26, 2009 Report Date: June 2009

Inspection Location: Launch Complex 39B

Sample Location: Rotating Service Structure Est. Quantity: 1250 SF

Homogeneous Area No.: 11 Sample No.: FC-1, FC-2, FC-3, FC-4, FC-5

Material Type: Floor Covering (Cement)

Description Gray Cement on Floor

% Asbestos: N/A Type Asb.: N/A

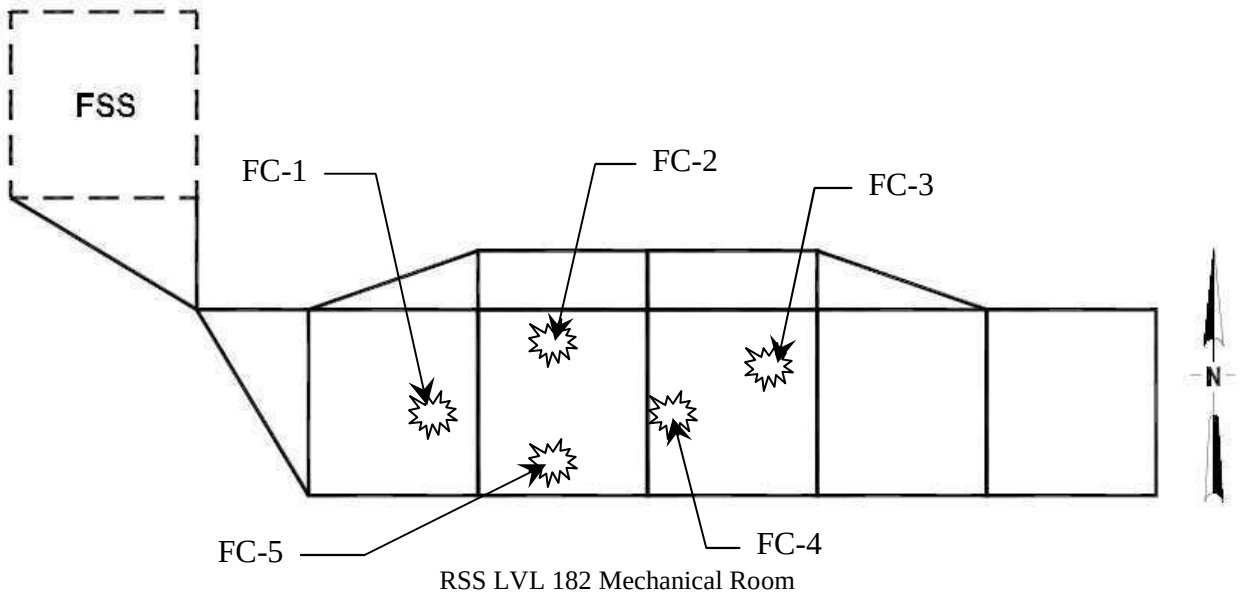
Asbestos Response Priority:

Present Condition

Poor (Sign. Damage) >10%	Fair (Damaged) 0-10%	Good (Undamaged) 0%

Friable? ☒ yes or ☐ no

SKETCH / PHOTOGRAPH NO.:



RSS LVL 182 Mechanical Room


RSS-FC-1


RSS-FC-2


RSS-FC-3


RSS-FC-4


RSS-FC-5

ASBESTOS SAMPLE FORM

PROJECT NAME Launch Complex 39B Project #: 14005-006-01

INSPECTORS Javier Du Quesne, Tom Murray

Project Date: March 26, 2009 Report Date: June 2009

Inspection Location: Launch Complex 39B

Sample Location: Rotating Service Structure Est. Quantity: 40 SF

Homogeneous Area No.: 12 Sample No.: VJC-1, VJC-2

Material Type: Miscellaneous Materials (Vibration Joint)

Description Black Vibration Joint on HVAC

% Asbestos: N/A Type Asb.: N/A

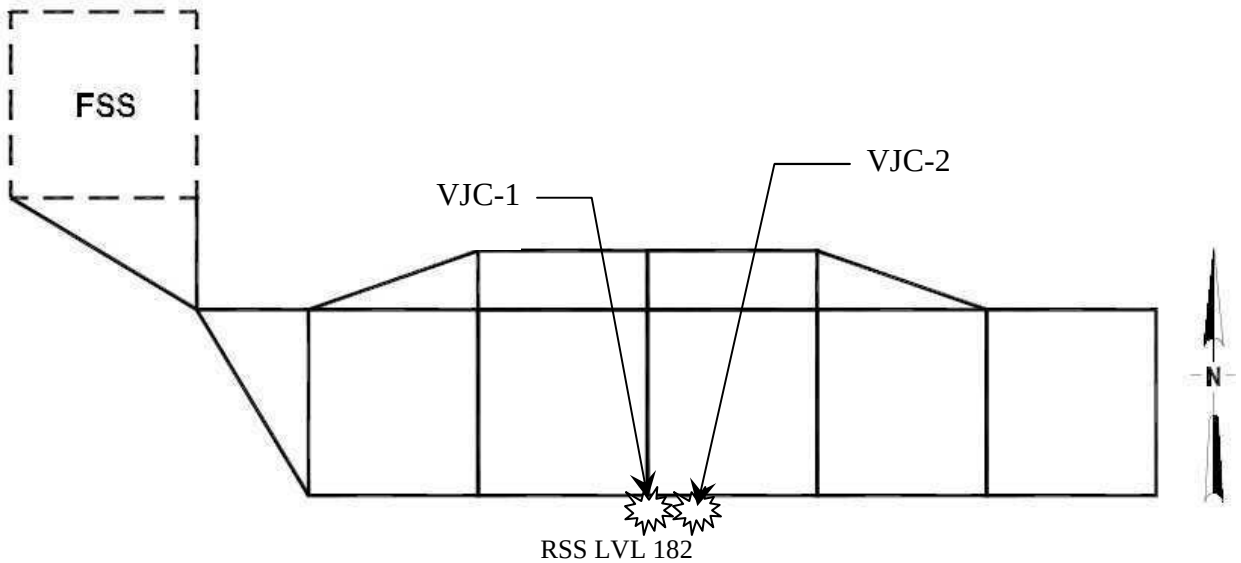
Asbestos Response Priority:

Present Condition

Poor (Sign. Damage) >10%	Fair (Damaged) 0-10%	Good (Undamaged) 0%

Friable? ☐ yes or ☒ no

SKETCH / PHOTOGRAPH NO.:



ASBESTOS SAMPLE FORM

PROJECT NAME Launch Complex 39B Project #: 14005-006-01

INSPECTORS Javier Du Quesne, Tom Murray

Project Date: March 26, 2009 Report Date: June 2009

Inspection Location: Launch Complex 39B

Sample Location: Rotating Service Structure Est. Quantity: 40 LF

Homogeneous Area No.: 13 Sample No.: GM-1, GM-2

Material Type: Miscellaneous Materials (Gasket)

Description Foam Gasket on Winch Duct

% Asbestos: N/A Type Asb.: N/A

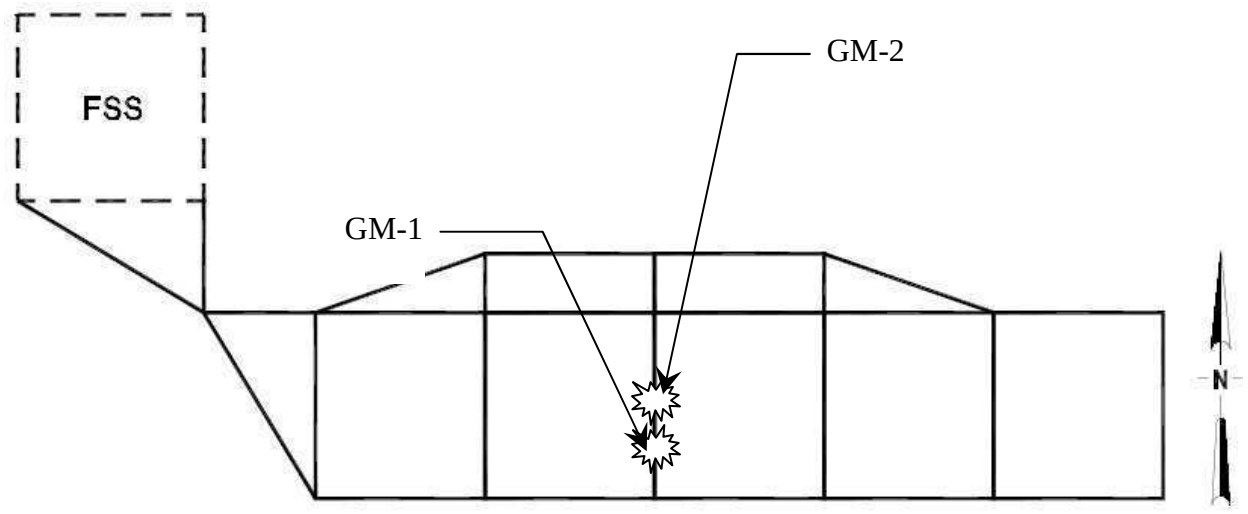
Asbestos Response Priority:

Present Condition

Poor (Sign. Damage) >10%	Fair (Damaged) 0-10%	Good (Undamaged) 0%

Friable? ☐ yes or ☒ no

SKETCH / PHOTOGRAPH NO.:



RSS LVL 182


A GM-1


A-GM-2

ASBESTOS SAMPLE FORM

PROJECT NAME Launch Complex 39B Project #: 14005-006-01

INSPECTORS Javier Du Quesne, Tom Murray

Project Date: March 26, 2009 Report Date: June 2009

Inspection Location: Launch Complex 39B

Sample Location: Rotating Service Structure Est. Quantity: 200 LF

Homogeneous Area No.: 14 Sample No.: TSI-1, TSI-2, TSI-3, TSI-4, TSI-5

Material Type: HVAC Insulation

Description Gray Mastic; White Mastic; Wrap; Foam Glass; Insulation; Black Epoxy Mastic; Metal Jacket

% Asbestos: N/A Type Asb.: N/A

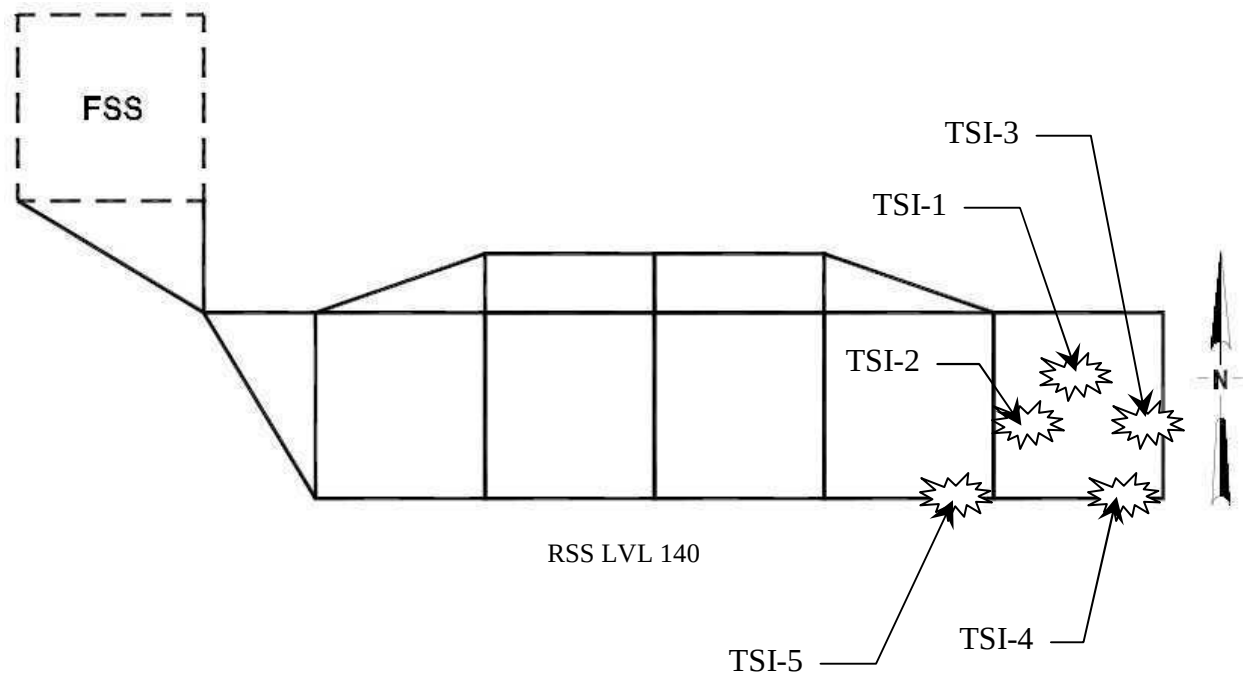
Asbestos Response Priority:

Present Condition

Poor (Sign. Damage) >10%	Fair (Damaged) 0-10%	Good (Undamaged) 0%

Friable? ☒ yes or ☐ no

SKETCH / PHOTOGRAPH NO.:




RSS-TSI-1


RSS-TSI-2


RSS-TSI-3


RSS-TSI-4


RSS
TST-5

ASBESTOS SAMPLE FORM

PROJECT NAME Launch Complex 39B Project #: 14005-006-01

INSPECTORS Javier Du Quesne, Tom Murray

Project Date: March 26, 2009 Report Date: June 2009

Inspection Location: Launch Complex 39B

Sample Location: Rotating Service Structure Est. Quantity: 2 SF

Homogeneous Area No.: 15 Sample No.: VJW-1,VJW-2, VJW-3

Material Type: Miscellaneous Materials (Vibration Joint)

Description Black Vibration Joint on Vacuum System (Note: These items are coated with paint)

% Asbestos: N/A Type Asb.: N/A

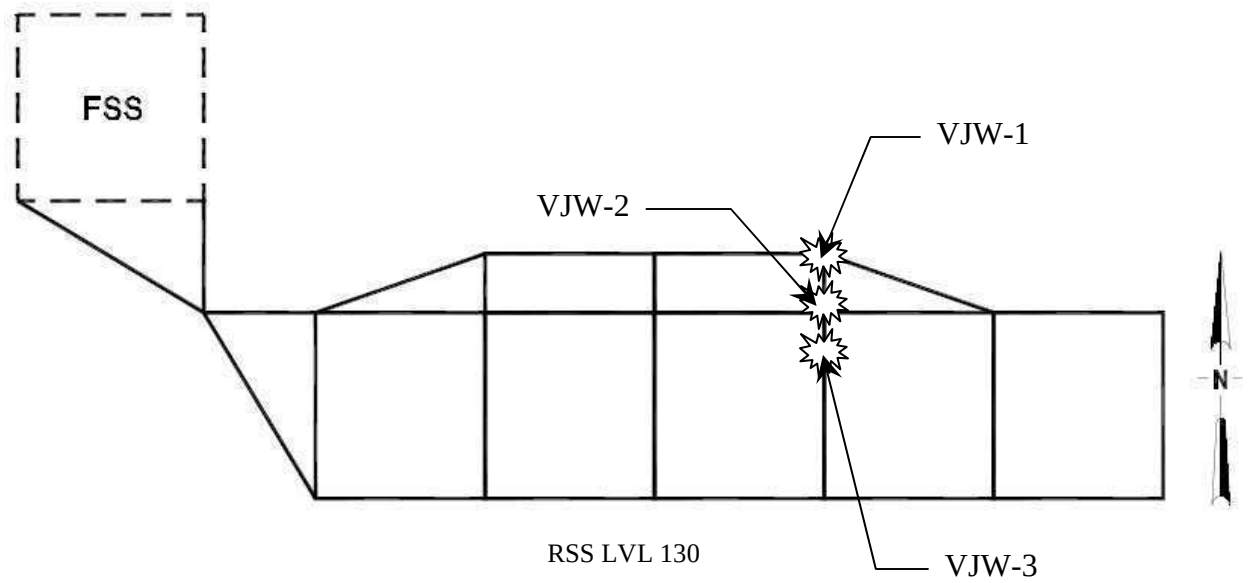
Asbestos Response Priority:

Present Condition

Poor	Fair	Good
(Sign. Damage)	(Damaged)	(Undamaged)
>10%	0-10%	0%

Friable? ☐ yes or ☒ no

SKETCH / PHOTOGRAPH NO.:




RSS-VJW-1


RSS-
VJW-
2


RSS.
VJW.
3

ASBESTOS SAMPLE FORM

PROJECT NAME Launch Complex 39B Project #: 14005-006-01

INSPECTORS Javier Du Quesne, Tom Murray

Project Date: March 26, 2009 Report Date: June 2009

Inspection Location: Launch Complex 39B

Sample Location: Rotating Service Structure Est. Quantity: 105 SF

Homogeneous Area No.: 16 Sample No.: WM-1, WM-2, WM-3

Material Type: Miscellaneous Material (Mastic)

Description White Mastic at Wall Penetrations and on HVAC

% Asbestos: N/A Type Asb.: N/A

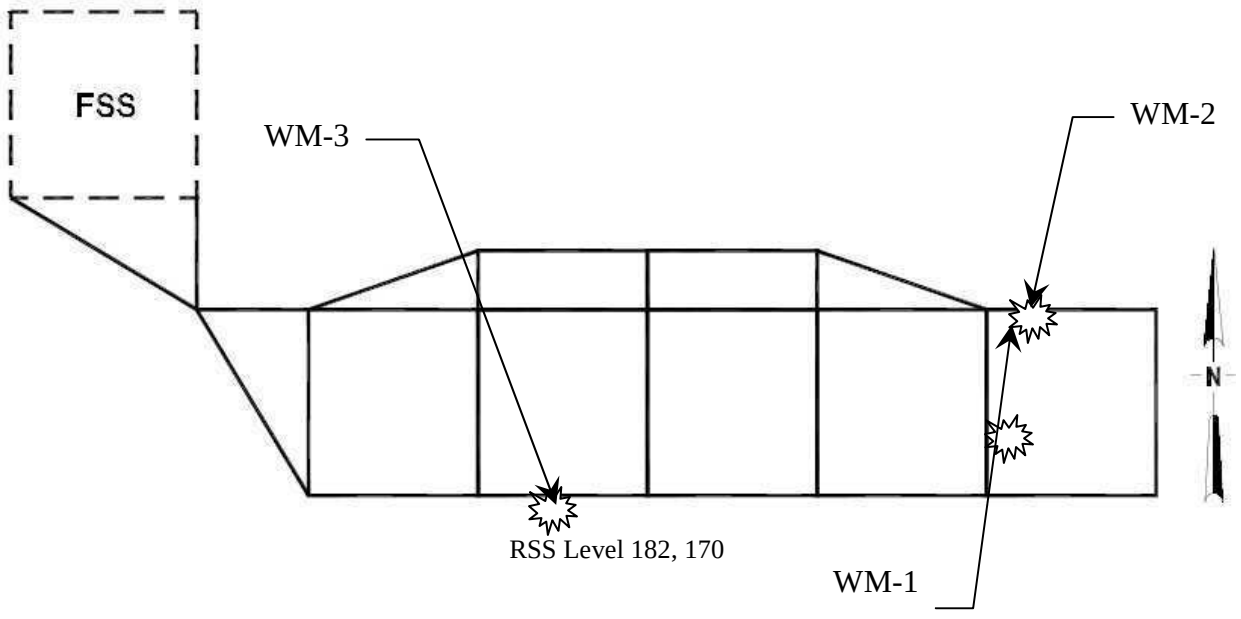
Asbestos Response Priority:

Present Condition

Poor (Sign. Damage) >10%	Fair (Damaged) 0-10%	Good (Undamaged) 0%

Friable? ☐ yes or ☒ no

SKETCH / PHOTOGRAPH NO.:



ASBESTOS SAMPLE FORM

PROJECT NAME Launch Complex 39B Project #: 14005-006-01

INSPECTORS Javier Du Quesne, Tom Murray

Project Date: March 26, 2009 Report Date: June 2009

Inspection Location: Launch Complex 39B

Sample Location: Rotating Service Structure Est. Quantity: 55 SF

Homogeneous Area No.: 17 Sample No.: GM-1, GM-2, GM-3

Material Type: Miscellaneous Material (Mastic)

Description Gray Mastic at Wall Penetrations and on HVAC

% Asbestos: N/A Type Asb.: N/A

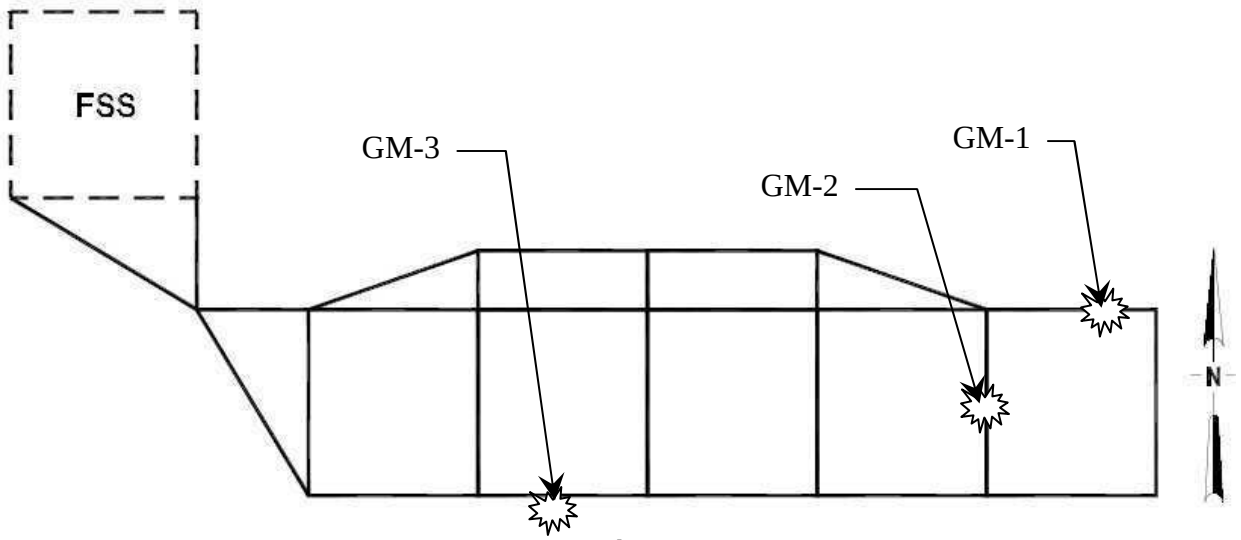
Asbestos Response Priority:

Present Condition

Poor (Sign. Damage) >10%	Fair (Damaged) 0-10%	Good (Undamaged) 0%

Friable? ☐ yes or ☒ no

SKETCH / PHOTOGRAPH NO.:



RSS Level 182, 170

ASBESTOS SAMPLE FORM

PROJECT NAME Launch Complex 39B Project #: 14005-006-01

INSPECTORS Javier Du Quesne, Tom Murray

Project Date: March 26, 2009 Report Date: June 2009

Inspection Location: Launch Complex 39B

Sample Location: Rotating Service Structure Est. Quantity: 100 SF

Homogeneous Area No.: 18 Sample No.: DGM-1, DGM-2, DGM-3

Material Type: Miscellaneous Material (Mastic)

Description Dark Gray Mastic on Walls

% Asbestos: N/A Type Asb.: N/A

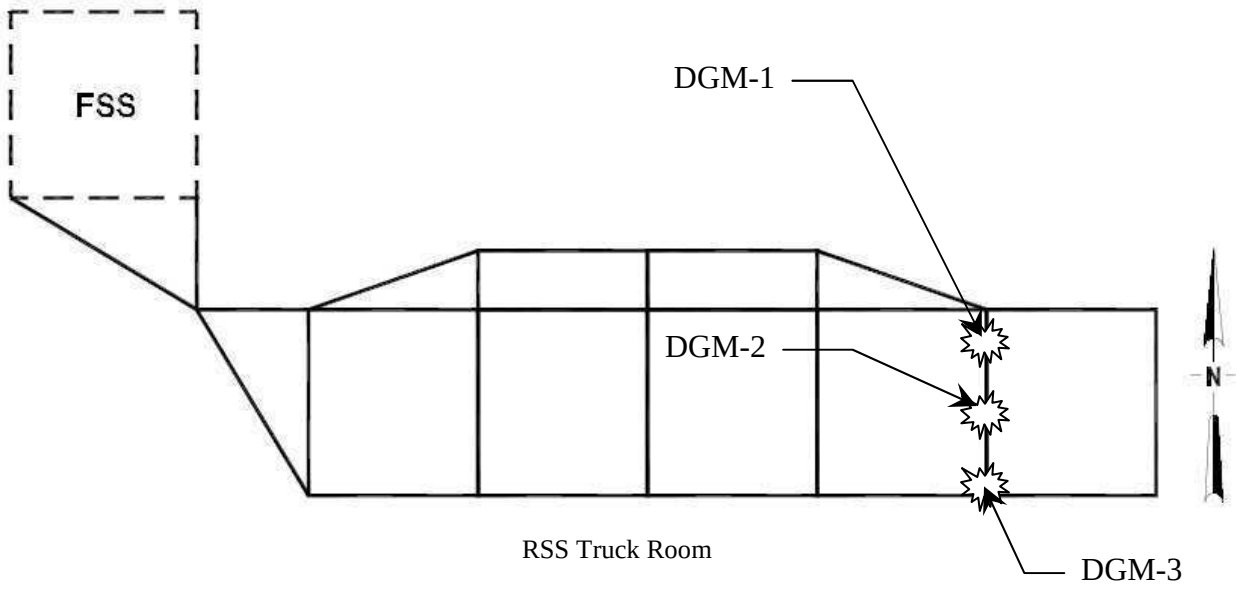
Asbestos Response Priority:

Present Condition

Poor (Sign. Damage) >10%	Fair (Damaged) 0-10%	Good (Undamaged) 0%

Friable? ☐ yes or ☒ no

SKETCH / PHOTOGRAPH NO.:




JAD
RSS
DGM-1


JAD
RSS
DGM-2


JAD
RSS
DGM-3

ASBESTOS SAMPLE FORM

PROJECT NAME Launch Complex 39B Project #: 14005-006-01

INSPECTORS Javier Du Quesne, Tom Murray

Project Date: March 26, 2009 Report Date: June 2009

Inspection Location: Launch Complex 39B

Sample Location: Rotating Service Structure Est. Quantity: 7,500 SF

Homogeneous Area No.: 19 Sample No.: Non-Suspect

Material Type: Corrugated Panels

Description Corrugated Metal Panels, Mastic, Paint

% Asbestos: N/A Type Asb.: N/A

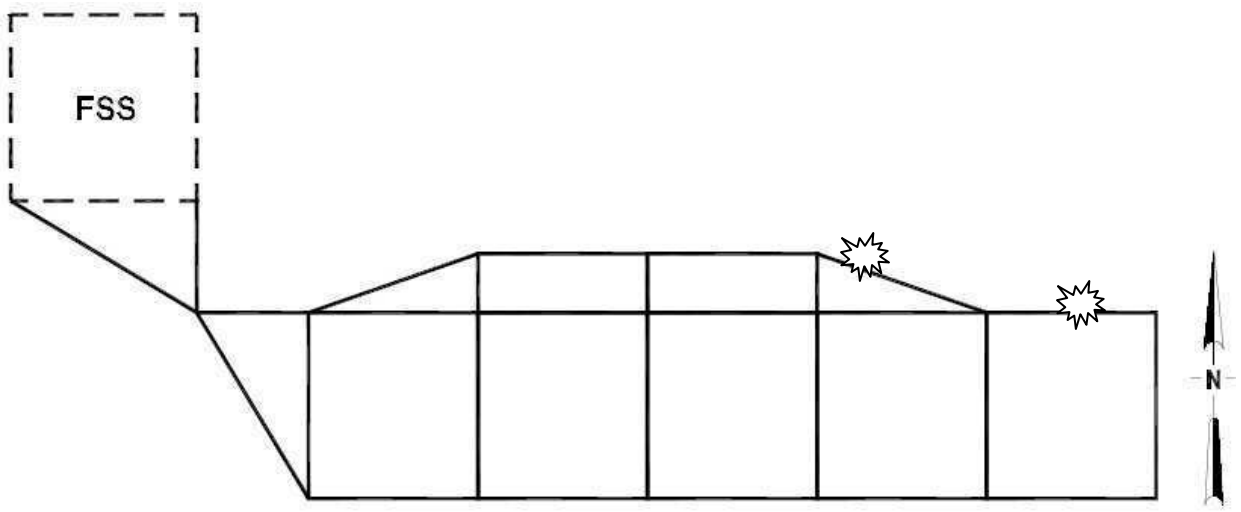
Asbestos Response Priority:

Present Condition

Poor	Fair	Good
(Sign. Damage)	(Damaged)	(Undamaged)
>10%	0-10%	0%

Friable? ☐ yes or ☒ no

SKETCH / PHOTOGRAPH NO.:



RSS LVL 140

ASBESTOS SAMPLE FORM

PROJECT NAME Launch Complex 39B Project #: 14005-006-01

INSPECTORS Javier Du Quesne, Tom Murray

Project Date: March 26, 2009 Report Date: June 2009

Inspection Location: Launch Complex 39B

Sample Location: Rotating Service Structure Est. Quantity: 18 EA

Homogeneous Area No.: 20 Sample No.: N/A

Material Type: Assumed Brake Shoes

Description Corrugated Metal Panels, Mastic, Paint

% Asbestos: Assumed Type Asb.: Assumed

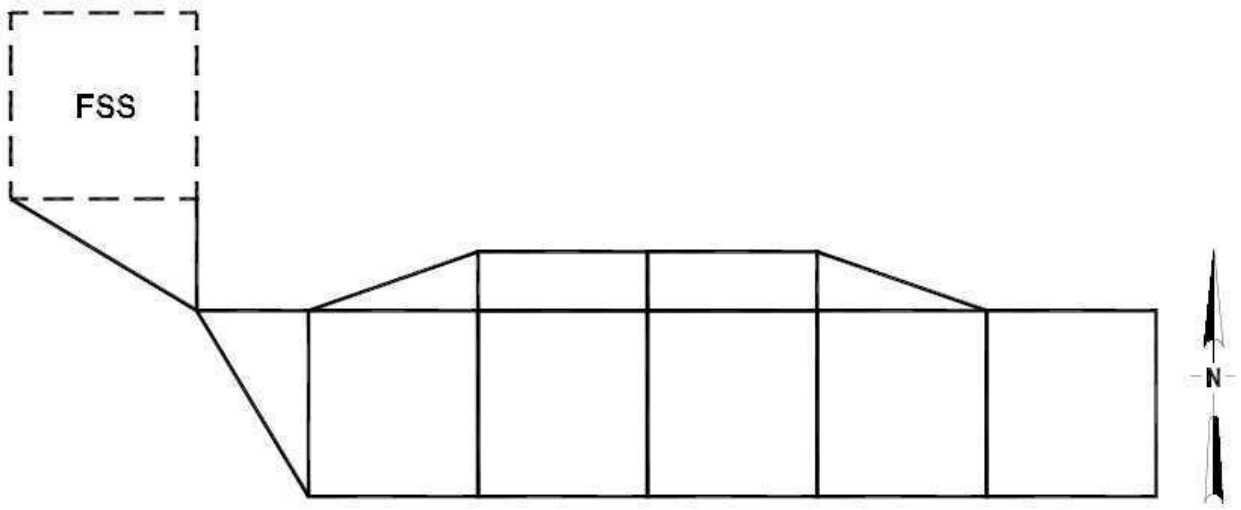
Asbestos Response Priority:

Present Condition

Poor (Sign. Damage) >10%	Fair (Damaged) 0-10%	Good (Undamaged) 0%

Friable? ☐ yes or ☒ no

SKETCH / PHOTOGRAPH NO.:



RSS

APPENDIX D

MSDS INFORMATION

TYPE MP-GC 3/c 15kV XLP/PVC

Three conductor
Mine power feeder cable
Mining grade

SPECIFICATIONS & STANDARDS

According to UL 1072
ASTM B 8
ICEA S-75-381/NEMA WC58

CONSTRUCTION:

Conductors:	Uncoated annealed copper, concentric standed per ASTM B 8
Conductors shield:	Extruded semi-conducting compound
Insulation:	Cross-linked polyethylene (XLP) 90ºC
Insulation shield:	Extruded semi-conducting compound, copper tape 0.003”
Circuit identification:	A color code tape (black, white, red) applied under the metallic shielding tape shall provide circuit identification on each power conductor in accordance with Par. 4.6 of ICEA
Grounding conductors:	Annealed bare copper Class B
Ground check :	Annealed bare copper between the black and white power conductor Yellow XLP 45 mils insulation as per Par. 4.4.2 of ICEA S-66-524
Assembly:	Three power conductor, ground check and two non-insulated grounding conductors cabled together with left hand lay with rubber fillers as required to make a round core; Estrofol binder tape applied overall
Cable reinforcement:	Reinforcement is applied over the assembly for mechanical strength
Jacket:	Flame retardant PVC compound in accordance with Par. 4.8 of ICEA S-75-381
Color of jacket:	Black; Other color available

FEATURES	APPLICATION
- Maximum continuous conductor temperature 90°C - Flame resistant - Oil resistant upon special request - Indent printed for easy identification	- Shielded high voltage power distribution cable suitable for insulation in boreholes, shafts, horizontal runs in underground entries, aerial suspension on insulators and other semi-permanent mining and industrial feeder installations

Standard length cable packing: 1000 ft reels; Other forms of packaging available

APPROVALS:

MSHA: **P-7K-256064**

RoHS COMPLIANT

TF Cable
TELE-FONIKA CABLE AMERICAS
1160 Pierson Drive, Suite 102
Batavia, IL 60510
tel: 630-406-9000 fax: 630-406-6574

TYPE MP-GC 3/c 15kV XLP/PVC

UL TYPE MP-GC – 15000 VOLTS – 100% INSULATION LEVEL

Part Number	Power Conductor Size	Power Conductor Stranding	Size		Nominal Insulation Thickness	Nominal Jacket Thickness	Nominal O.D.		Approx. Weight		Ampacity(1) 40ºC Ambient Temp.
			Ground	Ground Check							
	AWG or MCM	No. of Stranding	AWG	AWG	inches	inches	inches	mm	lbs./1000 ft.	kgs/km	A
MPGC2-15KV	2 AWG	7	6	8	0.175	0.140	1.90	48.2	2100	3130	164
MPGC1-15KV	1 AWG	19	5	8	0.175	0.140	2.03	51.7	2470	3680	187
MPGC1/0-15KV	1/0 AWG	19	4	8	0.175	0.140	2.12	53.8	2800	4170	215
MPGC2/0-15KV	2/0 AWG	19	3	8	0.175	0.140	2.20	55.9	3190	4760	246
MPGC3/0-15KV	3/0 AWG	19	2	8	0.175	0.140	2.32	58.9	3710	5530	283
MPGC4/0-15KV	4/0 AWG	37	1	8	0.175	0.140	2.45	62.2	4310	6430	325
MPGC250-15KV	250 MCM	37	1/0	8	0.175	0.140	2.53	64.4	4940	7370	359
MPGC350-15KV	350 MCM	37	2/0	8	0.175	0.140	2.75	69.9	6250	9320	438
MPGC500-15KV	500 MCM	37	4/0	8	0.175	0.140	3.10	78.7	8600	12810	540

(1) Ampacity – Free air measured; Based on continuous duty at 90°C conductor temperature

STANDARD PRINT LEGEND:

TELE-FONIKA 15000V (SIZE) GROUNDED MP-GC P-7K-254064-MSHA

Georgia-Pacific

Georgia-Pacific LLC

133 Peachtree Street, N.E. (30303)
P.O. Box 105605
Atlanta, Georgia 30348-5605
(404) 652-4000
www.gp.com

Date: 7/25/2007

725 000 13625

CHEM-PRUF DOOR CO
5224 FM802
BROWNSVILLE TX 78521
UNITED STATES

Dear Georgia-Pacific Customer:

Enclosed please find the Material Safety Data sheet (MSDS) for a product(s) purchased from Georgia-Pacific LLC. This MSDS has either been revised since you last received them, or are for products you have purchased for the first time.

This safety data sheet provides important health and safety information. We suggest that you review this document prior to handling the product. For this document to be an effective means of hazard communication, it must be made available to all those who handle and are responsible for operations involving this product. Risk associated with the hazards identified in the safety data sheet may be reduced or avoided if employees and customers are informed, remain alert to their possible occurrence, and adhere to safe work practices.

Exposure evaluation and assessment is recommended to insure that methods used in the handling, storage, disposal, and reporting of this product will be adequate and in compliance with applicable laws and regulations. Information contained herein should not be used for specification purposes.

This safety data sheet has been prepared in accordance with the American National Standards Institute guidelines for Material Safety Data Sheet preparation and supersedes all prior versions.

Sincerely,

Product Safety and Health

Enclosure(s)

Georgia-Pacific

MATERIAL SAFETY DATA SHEET

ID: GP-79A

FireDefender™ FS (Previously named Firestop)

Section 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name:	FireDefender™ FS (Previously named Firestop)
Product Number:	(See product list found in section 16)
Product Use:	Edge banding, backing and components for fire doors and frames.
Manufacturer/Supplier:	Georgia-Pacific Gypsum LLC 133 Peachtree Street, N.E., Atlanta, GA 30303
Phone Number:	(800) 225-6115 (Technical Information) (404) 652-5119 (MSDS Request)
Emergency Phone:	CHEMTREC (800) 424-9300
Date of Preparation:	June 4, 2007

Section 2: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

CAUTION

Sawing, sanding, drilling or routing this product may generate dust. Dust can be irritating to the eyes, skin, and respiratory system.

Likely Routes of Exposure: Skin contact, eye contact, and inhalation.

Potential Health Effects:

Eye: Dust may cause eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with possible redness and swelling.

Skin: Dust may cause skin irritation. Symptoms may include redness, drying, and cracking of the skin.

Ingestion: Not applicable under normal conditions of use. May result in obstruction and temporary irritation of the digestive tract.

Inhalation: May cause respiratory tract irritation.

Medical Conditions Aggravated By Exposure: Because of its irritating properties, dust may aggravate preexisting skin, eye, and respiratory conditions.

Target Organs: Skin, eyes and respiratory system.

Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient	CAS #	Wt. %
Gypsum (calcium sulfate)	7778-18-9	60 - 100
Cellulose	9004-34-6	7 - 13
Perlite*	93763-70-3	5 - 10
Continuous filament glass fibers	65997-17-3	1 - 5
Silica, crystalline, quartz	14808-60-7	1 - 5
Vermiculite (Non asbestos containing)	1318-00-9	1 - 5

* Contained only in low density FireDefender™ formulas.

Gypsum, perlite, and vermiculite may contain naturally occurring silica crystalline (quartz), which is listed as a lung carcinogen. See section 8 for exposure information.

Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines

Ingredient	CAS #	Exposure Limits OSHA-PEL	ACGIH-TLV
Gypsum ($CaSO_4$)	7778-18-9	15 mg/m³ (total); 5 mg/m³ (resp)	10 mg/m³ (total)
Cellulose	9004-34-6	15 mg/m³ (total)	10 mg/m³ (total)
Perlite	93763-70-3	15 mg/m³ (total); 5 mg/m³ (resp)	10 mg/m³
Continuous filament glass fibers	65997-17-3	Not available.	1 f/cc TWA (respirable fibers; length > 5 µm, aspect ratio equal to or greater than 3:1, as determined by the membrane filter method at 400-450X magnification (4-mm objective), using phase contrast illumination.); 5 mg/m³ TWA (inhalable fraction) related to continuous filament glass fibers).
Silica, crystalline, quartz	14808-60-7	((10 mg/m³)/(%SiO_2+2); TWA (resp)); ((30 mg/m³)/(%SiO_2+2); TWA (total)); ((250)/(%SiO_2+5) mppct TWA (resp))	0.025 mg/m³
Vermiculite (Non asbestos containing)	1318-00-9	15 mg/m³ (total); 5 mg/m³ (resp)	10 mg/m³ (total)

Engineering Controls: When cutting, sanding, or otherwise machining this product, provide local and general exhaust ventilation to keep airborne dust concentrations below exposure limits. Use wet methods, if appropriate, to reduce the generation of dust.

Personal Protective Equipment:

Eye/Face Protection: Safety glasses or goggles are recommended for dust. Ensure compliance with OSHA's PPE standards (29 CFR 1910.132 (general) and 133 (eye and face protection)). Safety shower/eye wash fountain must be readily available in the workplace area (29 CFR 1910.151(c)).

Skin Protection: Impervious protective clothing and gloves recommended to prevent irritation. Ensure compliance with OSHA's PPE standards (29 CFR 1910.132 (general) and 138 (hand protection)). Safety shower/eye wash fountain must be readily available in the workplace area (29 CFR 1910.151(c)).

Respiratory Protection: Not applicable in purchased form. A NIOSH approved dust mask or filtering facepiece is recommended in poorly ventilated areas or when permissible exposure limits may be exceeded. Respirators should be selected by and used under the direction of a trained health and safety professional following requirements found in OSHA's respirator standard (29 CFR 1910.134) and ANSI's standard for respiratory protection (Z88.2).

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Composite edge banding, blocking or components.
Color:	Gray or brown.
Odor:	Odorless.
Odor Threshold:	Not available.
Physical State:	Solid.
pH:	5.5-8.5
Viscosity:	Not applicable.

Prolonged exposure to respirable crystalline silica has been known to cause silicosis, a lung disease, which may be disabling. While there may be a factor of individual susceptibility in a given exposure to respirable silica dust, the risk of contracting silicosis and the severity of the disease is clearly related to the amount of dust exposure and the length of time (usually years) of exposure.

In 1997 IARC reclassified continuous filament glass fibers as a Group 3 substance, "not classifiable as to its carcinogenicity to humans". In 2001, IARC reaffirmed this designation. Continuous filament glass fibers are not considered respirable due to their large diameter.

Carcinogenicity: Hazardous by OSHA/WHMIS criteria.

Ingredient	Chemical Listed as Carcinogen or Potential Carcinogen
Silica, crystalline, quartz	ACGIH - A2 - Suspected human carcinogen; IARC - 1 - The agent is carcinogenic to humans; NTP - K - Known to be carcinogens;

Mutagenicity; Reproductive Effects; Teratogenicity; Embryotoxicity; Respiratory Sensitization; Skin Sensitization: Not hazardous by OSHA/WHMIS criteria.

Toxicologically Synergistic Materials: Not available.

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity: Not considered to be harmful to aquatic life.

		LC/EC_{50}
Freshwater Fish Species Data: Gypsum (calcium sulfate)	7778-18-9	96 Hr LC50 Lepomis macrochirus: 2980 mg/L (static)
Water Flea Data: Gypsum (calcium sulfate)	7778-18-9	120 Hr EC50 Nitscheria linearis: 3200 mg/L

Section 13: DISPOSAL CONSIDERATIONS

Disposal Instructions:
This product, if discarded as supplied, is not considered a hazardous waste under Federal Waste Regulations 40 CFR 261. If processing, use, or contamination alters the material, the waste must be tested using methods described in 40 CFR 261 to determine if it meets applicable definition of hazardous waste.

Section 14: TRANSPORTATION INFORMATION

DOT Classification
Not regulated

TDG Classification
Not regulated

Section 15: REGULATORY INFORMATION

Federal Regulations

Canadian: This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

US: MSDS prepared pursuant to the Hazard Communication Standard (CFR29 1910.1200).

Product List:

GP-79A FireDefender™ FS (Previously named Firestop) (Includes HDF and LDF)

Disclaimer:
IMPORTANT: The information and data herein are believed to be accurate and have been compiled from sources believed to be reliable. It is offered for your consideration, investigation and verification. Buyer assumes all risk of use, storage and handling of the product in compliance with applicable federal, state and local laws and regulations. Georgia-Pacific and its subsidiaries make no warranty of any kind, expressed or implied, concerning the accuracy or completeness of the information and data herein. The implied warranties of merchantability and fitness for a particular purpose are specifically excluded. Georgia-Pacific and its subsidiaries will not be liable for claims that the information and data are inaccurate, incomplete or otherwise misleading.

Supercedes: 7/31/00

Prepared by: Georgia-Pacific LLC
(404) 652-5119 (MSDS Request)

Georgia-Pacific

Georgia-Pacific LLC

133 Peachtree Street, N.E. (30303)
P.O. Box 105605
Atlanta, Georgia 30348-5605
(404) 652-4000
www.gp.com

Date: 7/25/2007

726 000 13826

CHEM-PRUF DOOR CO
5224 FM802
BROWNSVILLE TX 78521
UNITED STATES

Dear Georgia-Pacific Customer:

Enclosed please find the Material Safety Data sheet (MSDS) for a product(s) purchased from Georgia-Pacific LLC. This MSDS has either been revised since you last received them, or are for products you have purchased for the first time.

This safety data sheet provides important health and safety information. We suggest that you review this document prior to handling the product. For this document to be an effective means of hazard communication, it must be made available to all those who handle and are responsible for operations involving this product. Risk associated with the hazards identified in the safety data sheet may be reduced or avoided if employees and customers are informed, remain alert to their possible occurrence, and adhere to safe work practices.

Exposure evaluation and assessment is recommended to insure that methods used in the handling, storage, disposal, and reporting of this product will be adequate and in compliance with applicable laws and regulations. Information contained herein should not be used for specification purposes.

This safety data sheet has been prepared in accordance with the American National Standards Institute guidelines for Material Safety Data Sheet preparation and supersedes all prior versions.

Sincerely,

Product Safety and Health

Enclosure(s)

Georgia-Pacific

MATERIAL SAFETY DATA SHEET

ID: GP-72A

FireDefender™ FS (Previously named Firestop)

Section 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name:	FireDefender™ FS (Previously named Firestop)
Product Number:	(See product list found in section 15)
Product Use:	Edge banding, blocking and components for fire doors and frames.
Manufacturer/Supplier:	Georgia-Pacific Gypsum LLC 133 Peachtree Street, N.E. Atlanta, GA 30303
Phone Number:	(800) 225-6119 (Technical Information) (404) 652-6119 (MSDS Request)
Emergency Phone:	CHEMTREC (800) 424-9300
Date of Preparation:	June 4, 2007

Section 2: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

CAUTION

Sawing, sanding, drilling or routing this product may generate dust. Dust may be irritating to the eyes, skin, and respiratory system.

Likely Routes of Exposure: Skin contact, eye contact, and inhalation.

Potential Health Effects:

Eye: Dust may cause eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with possible redness and swelling.

Skin: Dust may cause skin irritation. Symptoms may include redness, drying, and cracking of the skin.

Ingestion: Not applicable under normal conditions of use. May result in obstruction and temporary irritation of the digestive tract.

Inhalation: May cause respiratory tract irritation.

Medical Conditions Aggravated By Exposure: Because of its irritating properties, dust may aggravate preexisting skin, eye, and respiratory conditions.

Target Organs: Skin, eyes and respiratory system.

Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient	CAS #	Wt %
Gypsum (calcium sulfate)	7778-18-9	60 - 100
Cellulose	9004-34-6	7 - 15
Perlite*	93763-70-3	5 - 10
Continuous filament glass fibers	65997-17-3	1 - 5
Silica, crystalline, quartz	14808-60-7	1 - 5
Vermiculite (Non asbestos containing)	1318-00-9	1 - 5

* Contained only in low density FireDefender™ formulas.

Gypsum, perlite, and vermiculite may contain naturally occurring silica crystalline (quartz), which is listed as a lung carcinogen. See section 8 for exposure information.

Section 4: FIRST AID MEASURES

Eye Contact: In case of contact, immediately flush eyes with plenty of water. Remove contact lenses, if worn. If irritation persists, get medical attention.

Skin Contact: In case of contact, immediately flush skin with plenty of water. Call a physician if irritation develops and persists.

Inhalation: Remove to fresh air. If symptoms persist, obtain medical attention.

Ingestion: May result in obstruction and irritation if ingested. Get medical attention.

Section 5: FIRE FIGHTING MEASURES

Flammability: Not flammable by OSHA/WHMIS criteria.

Flammable Limits: This product is fire resistant and has the following surface burning characteristics reported by nationally recognized laboratories. Flame Spread, 0 - 25, and Smoke Development, 0

Means of Extinction:

Suitable Extinguishing Media: Not applicable.

Unsuitable Extinguishing Media: Not applicable.

Products of Combustion: May include and are not limited to calcium oxide and sulfur dioxide.

Explosion Data:

Sensitivity to Mechanical Impact: Not applicable.

Sensitivity to Static Discharge: Not applicable.

Protection of Firefighters: Firefighters should wear full protective clothing including self contained breathing apparatus.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions: Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel.

Environmental Precautions: Not applicable for product in purchased form. Keep out of drains, sewers, ditches, and waterways. Minimize use of water to prevent environmental contamination.

Methods for Containment: Pick up large pieces, then place in a suitable container. Do not flush to sewer or allow to enter waterways. Use appropriate Personal Protective Equipment (PPE).

Methods for Clean-Up: Vacuum or sweep material and place in a disposal container.

Section 7: HANDLING AND STORAGE

Handling:
Avoid contact with skin and eyes. Do not breathe dust. Use only in well-ventilated areas. Handle and open container with care. Wear appropriate NIOSH approved dust mask or filtering facepiece if dust or mist is generated. When using do not eat or drink. Wash hands before eating, drinking, or smoking.

Storage:
Keep out of the reach of children. Store level and keep dry.

Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines

Ingredient	CAS #	Exposure Limits OSHA-PEL	ACGIH-TLV
Gypsum ($CaSO_4$)	7778-18-9	15 mg/m³ (total); 5 mg/m³ (resp)	10 mg/m³ (total)
Cellulose	9004-34-6	15 mg/m³ (total)	10 mg/m³ (total)
Perlite	93763-70-3	15 mg/m³ (total); 5 mg/m³ (resp)	10 mg/m³
Continuous filament glass fibers	65997-17-3	Not available.	< fiber TWA (respirable fibers: length > 5 µm, aspect ratio equal to or greater than 3:1, as determined by the membrane filter method at 400-450X magnification (4-mm objective), using phase contrast illumination); 5 mg/m³ TWA (inhalable fraction) (related to continuous filament glass fibers); 0.025 mg/m³
Silica, crystalline, quartz	14808-60-7	((10 mg/m³)/(%SiO_2+2) TWA (resp)); ((30 mg/m³)/(%SiO_2+2) TWA (inhal)); ((250)/(%SiO_2+5) mppcf TWA (resp))	
Vermiculite (Non asbestos containing)	1318-00-9	15 mg/m³ (total); 5 mg/m³ (resp)	10 mg/m³ (total)

Engineering Controls: When cutting, sanding, or otherwise machining this product, provide local and general exhaust ventilation to keep airborne dust concentrations below exposure limits. Use wet methods, if appropriate, to reduce the generation of dust.

Personal Protective Equipment:

Eye/Face Protection: Safety glasses or goggles are recommended for dust. Ensure compliance with OSHA's PPE standards (29 CFR 1910.132 (general) and 133 (eye and face protection)). Safety shower/eye wash fountain must be readily available in the workplace area (29 CFR 1910.151(c)).

Skin Protection: Impervious protective clothing and gloves recommended to prevent irritation. Ensure compliance with OSHA's PPE standards (29 CFR 1910.132 (general) and 138 (hand protection)). Safety shower/eye wash fountain must be readily available in the workplace area (29 CFR 1910.151(c)).

Respiratory Protection: Not applicable in purchased form. A NIOSH approved dust mask or filtering facepiece is recommended in poorly ventilated areas or when permissible exposure limits may be exceeded. Respirators should be selected by and used under the direction of a trained health and safety professional following requirements found in OSHA's respirator standard (29 CFR 1910.134) and ANSI's standard for respiratory protection (Z88.2).

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Composite edge banding, blocking or components.
Color:	Gray or brown.
Odor:	Odorless.
Odor Threshold:	Not available.
Physical State:	Solid.
pH:	5.5-8.5
Viscosity:	Not applicable.

Freezing Point:	Not applicable.
Boiling Point:	Not applicable.
Flash Point:	Not applicable.
Evaporation Rate:	Not available.
Lower Flammability Limit:	Not applicable.
Upper Flammability Limit:	Not applicable.
Vapor Pressure:	Not applicable.
Vapor Density:	Not applicable.
Specific Gravity:	1 - 1.5
Solubility in Water:	< 0.2 @ 20°C
Coefficient of Water/Oil Distribution:	Not available.
Auto-ignition Temperature:	Not applicable.
Percent Volatile, wt. %:	Not available.
VOC content, wt. %:	Not available.

Section 10: STABILITY AND REACTIVITY

Stability: Stable under normal storage conditions.

Conditions of Reactivity: None identified.

Incompatible Materials: None identified.

Hazardous Decomposition Products: May include and are not limited to: calcium oxide and sulfur dioxide.

Possibility of Hazardous Reactions: No dangerous reaction known under conditions of normal use.

Section 11: TOXICOLOGY INFORMATION

EFFECTS OF ACUTE EXPOSURE

Component Analysis

Ingredient	LD_{50} (oral)	LC_{50}
Gypsum (calcium sulfate)	Not available.	Not available.
Cellulose	5,000 mg/kg, rat	5,800 mg/m³ 4hrs, rat
Perlite	Not available.	Not available.
Continuous filament glass fibers	Not available.	Not available.
Silica, crystalline, quartz	Not available.	Not available.
Vermiculite (Non asbestos containing)	Not available.	Not available.

EFFECTS OF CHRONIC EXPOSURE

Target Organs: Lungs.

Chronic Effects: Hazardous by OSHA/WHMIS criteria.

Respirable crystalline silica in the form of quartz or cristobalite from occupational sources is listed by the International Agency for Research on Cancer (IARC) and National Toxicology Program (NTP) as a lung carcinogen.

Prolonged exposure to respirable crystalline silica has been known to cause silicosis, a lung disease, which may be disabling. While there may be a factor of individual susceptibility to a given exposure to respirable silica dust, the risk of contracting silicosis and the severity of the disease is clearly related to the amount of dust exposure and the length of time (usually years) of exposure.

In 1987, IARC classified continuous filament glass fibers as a Group 3 substance, "not classifiable as to its carcinogenicity to humans". In 2001, IARC reaffirmed this designation. Continuous filament glass fibers are not considered respirable due to their large diameter.

Carcinogenicity: Hazardous by OSHA/WHMIS criteria.

Ingredient	Chemical Listed as Carcinogen or Potential Carcinogen
Silica, crystalline, quartz	ACGIH - A2 - Suspected human carcinogen; IARC - 1 - This agent is carcinogenic to humans; NTP - 1 - Known to be carcinogens;

Mutagenicity; Reproductive Effects; Teratogenicity; Embryotoxicity; Respiratory Sensitization; Skin Sensitization: Not hazardous by OSHA/WHMIS criteria.

Toxicologically Synergistic Materials: Not available.

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity: Not considered to be harmful to aquatic life.

		LC/EC_{50}
Freshwater Fish Species Data:		
Gypsum (calcium sulfate)	7778-18-9	96 Hr LC50 Lepomis macrochirus: 2980 mg/l (static)
Water Flea Data:		
Gypsum (calcium sulfate)	7778-18-9	120 Hr EC50 Nitzschia linearis: 3200 mg/L

Section 13: DISPOSAL CONSIDERATIONS

Disposal Instructions:
This product, if discarded as supplied, is not considered a hazardous waste under Federal Waste Regulations 40 CFR 261. If processing, use, or contamination alters the material, the waste must be tested using methods described in 40 CFR 261 to determine if it meets applicable definition of hazardous waste.

Section 14: TRANSPORTATION INFORMATION

DOT Classification
Not regulated

TDG Classification
Not regulated

Section 15: REGULATORY INFORMATION

Federal Regulations

Canadian: This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

US: MSDS prepared pursuant to the Hazard Communication Standard (CFR29 1910.1200).

SARA Title III

Ingredient	Section 302 (EHS) TPQ (lbs.)	Section 304 EHS RQ (lbs.)	CERCLA RQ (lbs.)	Section 313
Gypsum (calcium sulfate)	Not listed.	Not listed.	Not listed.	Not listed.
Cellulose	Not listed.	Not listed.	Not listed.	Not listed.
Perlite	Not listed.	Not listed.	Not listed.	Not listed.
Continuous filament glass fibers	Not listed.	Not listed.	Not listed.	Not listed.
Silica, crystalline, quartz	Not listed.	Not listed.	Not listed.	Not listed.
Vermiculite (Non asbestos containing)	Not listed.	Not listed.	Not listed.	Not listed.

Section 311-312: Delayed (chronic) health hazard.

Global Inventories

Ingredient	Canada DSL/NDSL	USA TSCA
Gypsum (calcium sulfate)	DSL	Yes.
Cellulose	DSL	Yes.
Perlite	DSL	Yes.
Continuous filament glass fibers	DSL	Yes.
Silica, crystalline, quartz	DSL	Yes.
Vermiculite (Non asbestos containing)	DSL	Yes.

HMIS - Hazardous Materials Identification System

Health - 1* Flammability - 0 Physical Hazard - 0

NFPA - National Fire Protection Association:

Health - 1 Fire - 0 Reactivity - 0

Hazard Rating: 0 = minimal 1 = slight 2 = moderate 3 = severe 4 = extreme

WHMIS Classification(s):
Class D2A - Carcinogenicity
Class D2A - Chronic Toxic Effects

WHMIS Hazard Symbols:

Section 16: OTHER INFORMATION

Other Information:

Products on this MSDS do not contain asbestos.

Product List:

GP-75A FireDefender™ FS (Previously named Firestop) (Includes MDF and LDF)

Disclaimer:
IMPORTANT: The information and data herein are believed to be accurate and have been compiled from sources believed to be reliable. It is offered for your consideration, investigation and verification. Buyer assumes all risk of use, storage and handling of the product in compliance with applicable federal, state and local laws and regulations. Georgia-Pacific and its subsidiaries make no warranty of any kind, expressed or implied, concerning the accuracy or completeness of the information and data herein. The implied warranties of merchantability and fitness for a particular purpose are specifically excluded. Georgia-Pacific and its subsidiaries will not be liable for claims that the information and data are inaccurate, incomplete or otherwise misleading.

Supercedes: 7/31/00

Prepared by: Georgia-Pacific LLC
(404) 652-5119 (MSDS Request)

March 31, 2009

CHEM-PRUF DOOR CO , INC
5224 FM 802
BUILDING 1000
BROWNSVILLE, TX 78521

Our Valued Customer:

In keeping with the federal and state 'RIGHT TO KNOW' laws, we are enclosing an MSDS for these products:

Item:	Reason for MSDS:
20910 MILLED FIBER	Revised MSDS

The OSHA HAZARD COMMUNICATION STANDARD states that employees must be trained in how to use an MSDS as a source for hazard information. All relevant sheets must be readily accessible to employees during each workshift when they are in their work areas.

If you have any questions concerning the information contained in the MSDS, please contact me as soon as possible.

To make our communications most effective, we encourage you to receive future MSDS correspondence electronically.

To receive future MSDS correspondence electronically, please send an e-mail with your full name, company name and e-mail address to msds@compositesone.com. You may also fax this information to the Department of Health, Safety, & Environment at 815/759-6719 or call 800/622-6688.

Bill Rudersdorf
Health, Safety, & Environment

HN/5261/3713501

Personal Protective Equipment

Protective Gloves

Safety Glasses

WHMIS Pictograms

D2A Toxic

DOT Pictograms

Not Regulated

Not Regulation

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

Product Name:	**Milled Fiber**
MSDS Manufacturer Number:	44088-NAM
Manufacturer Name:	Owens Corning Composite Materials, LLC
Address:	One Owens Corning Parkway Toledo, OH 43659
Customer Service Phone Number:	1-800-GET-PINK or 1-800-438-7465
Health Issues Information:	1-419-248-8234 (8am-5pm ET)
Technical Product Information:	1-800-GET-PINK or 1-800-438-7465
Emergency Phone Number:	1 419-248-5330 (after 5pm ET and weekends)
CHEMTREC:	800-424-9300 (24 hours everyday)
Canutec:	(613) 996-6666 (Canada 24 hours everyday)
Website:	www.owenscorning.com
MSDS Creation Date:	05/15/2003
MSDS Revision Date:	09/25/2007
MSDS Format:	According to ANSI Z400.1-2004

NFPA

HMIS

Reactivity	0
Personal Protection	X

* Chronic Health Effects

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS#	Ingredient Percent
Fiber Glass (crushed/shredded continuous filament)	65997-17-3	100 by weight

As manufactured continuous filament glass fibers are non-respirable. Continuous filament glass products that are chopped, crushed or severely mechanically processed during manufacturing or use may contain a very small amount of respirable particulate, some of which may be glass shards. See Section 8 for Exposure Limit Data.

Non-Hazardous Statement:: The remaining components of the product are non-hazardous or are in a small enough quantity as to not meet regulatory thresholds for disclosure. These components contain no substances or impurities which would influence the classification of this product.

SECTION 3 - HAZARDS IDENTIFICATION

Applies to product :

Emergency Overview:	Exposure to dust may be irritating to eyes, nose, and throat.
Route of Exposure:	Eye contact Skin contact Inhalation.
Potential Health Effects:	
Eye:	May cause slight irritation.
Skin:	May cause slight skin irritation.

SECTION 7 - HANDLING and STORAGE

Handling:	Avoid dust formation. Do not breathe dust. Wear personal protective equipment.
Storage:	Keep product in its packaging until use to minimize potential dust generation. Material should be kept dry and undercover.
Hygiene Practices:	Wash hands before breaks and immediately after handling the product. Remove and wash contaminated clothing before re-use.

SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION - EXPOSURE GUIDELINES

Engineering Controls:	Provide local exhaust and/or general ventilation to maintain exposure below regulatory and recommended limits. Dust collection system must be used in transferring operations, cutting or machining or other dust generating processes, such as using power tools. Vacuum or wet clean-up methods should be used.
Eye/Face Protection:	Safety glasses with side-shields.
Skin Protection Description:	Protective gloves, Long sleeved shirt and long pants.
Respiratory Protection:	When workers are facing airborne particulate/dust concentrations above the exposure limit they must use appropriate certified respirators. A properly fitted NIOSH approved disposable N 95 type dust respirator or better is recommended.
General Hygiene Considerations:	Wash hands before breaks and immediately after handling the product. Remove and wash contaminated clothing before re-use.

EXPOSURE GUIDELINES

	Guideline OSHA	Guideline ACGIH	Ontario Canada	Mexico	
Fiber glass (crushed/shredded cont nuous filament)	PEL-TWA: 1 f/cc (Respirable)	TLV-TWA: 1 f/cc (Respirable) 5 mg/m3 (Inhalable)	TWAEV: 1 f/cc (Respirable) 5 mg/m3 (Inhalable)	TWA: 10 mg/m3	

SECTION 9 - PHYSICAL and CHEMICAL PROPERTIES

Physical State Appearance:	Powder or shredded fiber glass.
Color:	White to gray
Odor:	No detectable odor.
Boiling Point:	No Data
Melting Point:	> 600 °C
Specific Gravity:	2.55 - 2.59 (Ref: water = 1).
Solubility:	Insoluble in water.
Vapor Density:	No Data
Vapor Pressure:	No Data
Evaporation Rate:	No Data
pH:	No Data
Viscosity:	Not applicable.
Flash Point:	None.
Flash Point Method:	Not determined.

SECTION 10 - STABILITY and REACTIVITY

Chemical Stability:	Stable under normal conditions.
Hazardous Polymerization:	Hazardous polymerization does not occur.
Conditions to Avoid:	None expected
Incompatible Materials:	No materials to be especially mentioned.
Special Decomposition Products:	See Section 5 of MSDS for hazardous decomposition products during a fire.

SECTION 11 - TOXICOLOGICAL INFORMATION

Applies to product :

	Australia AICS	Canada DSL	TSCA Inventory Status		
Fiber Glass (crushed/shredded continuous filament)	Listed	Listed	Listed		

Applies to product :

Canada Reg. Status:	This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by the Controlled Products Regulations.
Canada WHMIS:	Controlled - Class: D2A Very Toxic
CA PROP 65:	The following statement(s) are provided under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): WARNING! This product contains a chemical known to the State of California to cause cancer.
SARA:	This product does not contain any chemicals which are subject to the reporting requirements of the Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III (40CFR, Part 372).
Section 311/312 Hazard Categories:	Acute Health Hazard: Yes Chronic Health Hazard: Yes Risk of Ignition: No Sudden Release of Pressure Hazard: No Reactive Hazard: No
Clean Air Act:	This product does not contain any Hazardous Air Pollutants (HAPs).

State Right To Know

	RI	MN	IL	PA	MA
Fiber Glass (crushed/shredded continuous filament)	No Data	Listed	No Data	No Data	No Data

	NJ				
Fiber Glass (crushed/shredded continuous filament)	No Data				

SECTION 16 - ADDITIONAL INFORMATION

HMIS Fire Hazard:	0
HMIS Health Hazard:	2*
HMIS Reactivity:	0
HMIS Personal Protection:	X
MSDS Creation Date:	05/15/2003
MSDS Revision Date:	05/25/2007
MSDS Revision Notes:	Format Update
MSDS Author:	KK
Disclaimer:	Reasonable care has been taken in the preparation of this information, but the manufacturer makes no warranty of merchantability or any other warranty, expressed or implied, with respect to this information. The manufacturer makes no representations and assumes no liability for any direct, incidental or consequential damages resulting from its use.

March 17, 2009

CHEM-PRUF DOOR CO , INC
5224 FM 802
BUILDING 1000
BROWNSVILLE, TX 78521

Our Valued Customer:

In keeping with the federal and state 'RIGHT TO KNOW' laws, we are enclosing an MSDS for these products:

Item:	Reason for MSDS:
200727 POLYESTER NONWOVEN MAT	Revised MSDS

The OSHA HAZARD COMMUNICATION STANDARD states that employees must be trained in how to use an MSDS as a source for hazard information. All relevant sheets must be readily accessible to employees during each workshift when they are in their work areas.

If you have any questions concerning the information contained in the MSDS, please contact me as soon as possible.

To make our communications most effective, we encourage you to receive future MSDS correspondence electronically.

To receive future MSDS correspondence electronically, please send an e-mail with your full name, company name and e-mail address to msds@compositesone.com. You may also fax this information to the Department of Health, Safety, & Environment at 815/759-6719 or call 800/622-6688.

Bill Rudersdorf
Health, Safety, & Environment

EN/5261/3713501

Section 1 - Product and Company Identification

Generic Name Polyester Nonwoven mat
Hazard Label Not Required

Company Information

Johns Manville Engineered Products Group
Mats and Reinforcements Division
P.O. Box 5108
Denver, CO 80127 USA

Telephone: 303-978-2000 8:00AM-5:00PM M-F
Internet Address: http://www.jm.com
Emergency: 800-424-9300 (Chemtrec. in English)

Trade Names:
Spunbond Polyester Mats;
Spunbond Polyester Mats: 01, 04, 11, 12, 13, 16, 17, & 40;
Spunbond Polyester & Binder Mats: 32, 33, & 35;
Spunbond Polyester, Binder, and Continuous Glass Filament Mats: 54 & 55;

Section 2 - Composition / Information on Ingredients

CAS #	Component	Percent
25038-59-9	Polyester fiber	60-100
Proprietary	Copolyesters	0-51*
Proprietary	Acrylic latex binder	0-40**
Not Available	Fiber glass filament (scrim)	0-10***
Not Available	Color additives (non hazardous)	0-1****

Component Related Regulatory Information

* In Series 40 only.
** In Series 32, 33, 35, 54, and 55 mat only.
*** In Series 54 and 55 only.
****Encapsulated in polymer system. Amount of colorants are below hazardous chemical reporting thresholds.

Section 3 - Hazards Identification

Emergency Overview

APPEARANCE AND ODOR: Polyester nonwoven mat, black, white, gray, blue or other light shades. Some mats also contain fiber glass filament.

Under normal conditions of use and handling, this product is not expected to create any health or safety hazards.

HMIS Ratings: Health = 1 Fire = 1 Reactivity = 0

Potential Health Effects

Inhalation
Temporary mechanical irritation may occur upon exposure to dust or fibers released from cutting this product.

Skin
Temporary mechanical irritation may occur.

Ingestion
Not applicable

Eyes
Temporary mechanical irritation may occur upon exposure to dust or fibers released from cutting this product.

Primary Routes of Entry (Exposure)
Inhalation, skin, and eye contact

Target Organs
None.

Personal Protective Equipment: General

Respiratory protection is not required for this product under normal conditions of handling and use.

Section 9 - Physical & Chemical Properties

Appearance:	Polyester mat, black, white, gray, blue or other light colors.	**Odor:**	No odor
Physical State:	Solid	**pH:**	Not applicable
Vapor Pressure:	Not applicable	**Vapor Density:**	Not applicable
Boiling Point:	Not applicable	**Melting Point:**	265°C/509°F
Solubility (H_2O):	Nil	**Specific Gravity:**	Variable
Freezing Point:	Not applicable	**Evaporation Rate:**	Not applicable
Viscosity:	Not applicable	**Percent Volatile:**	0
VOC:	Not applicable		

Section 10 - Stability & Reactivity Information

Stability

This is a stable material. This product is not reactive.

Hazardous Decomposition

Combustion products include acetaldehyde, carbon monoxide, carbon dioxide, and hydrocarbons.

Hazardous Polymerization

Will not occur.

Section 11 - Toxicological Information

Acute Toxicity

A: General Product Information

None identified.

B: Component Analysis - LD50/LC50

No LD50/LC50's are available for this product's components.

Carcinogenicity

A: General Product Information

The Occupational Safety and Health Administration (OSHA), National Toxicology Program (NTP), International Agency for Research on Cancer (IARC), and American Conference of Governmental Industrial Hygienists (ACGIH) have not classified this product as a carcinogen.

B: Component Carcinogenicity

Fiber glass filament (scrim) (Not Available)

ACGIH: A4 - Not Classifiable as a Human Carcinogen

IARC: Group 3 - Not Classifiable (IARC Monograph 81 (2002) (listed under Man-made mineral fibres), Monograph 43 [1988])

Chronic Toxicity

No chronic health effects are expected from the normal use of this product.

Section 12 - Ecological Information

Ecotoxicity

A: General Product Information

No data available for this product.

B: Component Analysis - Ecotoxicity - Aquatic Toxicity

No ecotoxicity data are available for this product's components.

Section 13 - Disposal Considerations

US EPA Waste Number & Descriptions

A: General Product Information

This product is not regulated as a hazardous waste by the U.S. Environmental Protection Agency (EPA) under Resource Conservation and Recovery Act (RCRA) regulations.

B: Component Waste Numbers

No EPA Waste Numbers are applicable for this product's components.

02/06/04	2200-1.0004	Regulatory review. Minor edits.
09/13/05	2200-1.0005	Addition of Spunbond Polyester Mat 032122; Addition of lubricant to composition: Colorant amount edited to a more exact range.
01/30/06	2200-1.0006	Moved Spunbond Polyester Nonwoven Mat 032122 to MSDS 2209
05/22/07	2200-1.0007	Regulatory update. Minor edits.

This is the end of MSDS # 2200

Marine Resin

Trade Binding Sample outside in warehouse 6-15-07

Material Safety Data Sheet

1. **Chemical Product and Company Identification**

Trade Name: **ADVACO Laminating Resin**

Chemical Name: Unsaturated Polyester Resin

Product Code:

Manufacturer: **Advance Coating Company**
Emergency Telephone: (978) 874-5921
Chemtrec 800-424-9300 24 Hr. Emergency

2. **Composition/Information on Ingredients**

Component	CAS#	Exposure Limits	% by weight
Polyester Resin	Proprietary	None assigned	60 ± 4%
Styrene Monomer	100-42-5	50.0 ppm ACGIH TWA 100.0 ppm ACGIH STEL	40 ± 4%

3. **Hazard Identification**

Emergency Overview: WARNING! Flammable liquid. Causes eye irritation. May cause skin and upper respiratory tract irritation. May cause central nervous system depression. Do not take internally.

Relevant Routes of Exposure: Inhalation, eye and skin.

Signs and Symptoms of Acute Overexposure:
Exposure to styrene vapors from this product may cause irritation of the eyes, nose, and throat, and headache, nausea or vomiting. Liquid resin is irritating to eyes and skin. The use of respirators and a local exhaust system are mandatory around spray operations. Protective gloves and goggles are recommended when contact with liquid resin by spray or splash is possible. Use with adequate exhaust ventilation.

Signs and Symptoms of Chronic Overexposure:
No known chronic health effects have been observed with normal use of this product.

Potential Health Effects/Health Hazard Identification
Acute Exposure

Eye: Causes Irritation
Skin: Causes Irritation
Ingestion: May cause irritation to the gastrointestinal track
Inhalation: Vapors may cause irritation of mucous membrane.
Chronic Exposure: Repeated exposure to high concentrations of styrene vapor

6. **Accidental Release Measurers**

Leaks and Spills: Eliminate all ignition sources. Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. For large spills; flush spill area with water spray. Prevent runoff from entering drains, sewers, or streams.

Personal Protection: Wear protective clothing.

7. **Handling and Storage**

Handling: Material is a combustible liquid; keep away from heat, open flame, oxidizers, and other ignition sources. Avoid breathing vapors. Use protective equipment when handling.

Storage: Store with adequate ventilation and out of direct sunlight. Bond and ground containers of this product to prevent static sparks. Store away from oxidizing agents. Always use the oldest lot first.

8. **Exposure Controls/Personal Protection**

Engineering Control: Local exhaust ventilation should be used to control the emissions of air contaminants. General dilution ventilation may assist with the reduction of air contaminant concentrations.

Respiratory Protection: If engineering controls do not maintain airborne concentrations to an acceptable level, an approved respirator must be worn. Respirator type : Organic vapor. If respirators are used, a program should be instituted to assure compliance with OSHA Standard 29 CFR 1910.134.

Ventilation Required: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. Supplementary local exhaust ventilation, closed systems, or respiratory protection may be needed in special circumstances such as poorly ventilated spaces, evaporation from large surfaces, spraying, heating, etc.

Skin Protection: Wear impervious gloves, boots, and protective clothing appropriate for the risk of exposure.

Eye Protection: Wear safety glasses with side shields (or goggles).

14. Transport Information

Technical Shipping Name.....Unsaturated polyester. contains styrene
Freight Class Bulk.....Not Applicable
Freight Class Package Resin, Coal Tar or Petroleum
Product Label.....4-2-98 Lt Gray Poly Paint NP

DOT (DOMESTIC SURFACE)

Proper Shipping Name.....Resin Solution
Hazard Class or Division.....3
UN/NA Number.....UN1866
Packing Group.....III
DOT Product RQ lbs (kgs).....4166 lbs (1889.7 kgs)
Hazard Label (s).....Flammable Liquid:
Hazard Placard (s) .....Flammable

IMO / IMDG CODE (OCEAN)

Proper Shipping Name.....Resin Solution
Hazard Class or Division.....3
UN Number..... .....UN1866
Additional IMO Information... .....Marine Pollutant
Packing Group.....III
Hazard Label (s).....Flammable Liquid; Marine Pollutant (Mark)
Hazard Placard (s) .....Flammable Liquid; Marine Pollutant

ICAO / IATA (AIR)

Proper Shipping Name.....Resin Solution
Hazard Class Division Number.....3
UN Number.....UN1866
Subsidiary Risk.....None
Packing Group.....III
Hazard Label (s).....Flammable Liquid
Radioactive?.....Non-Radioactive
Passenger Air – Max. Qty.....60L
Passenger Packing Instruction.....309
Cargo Air – Max Qty.....220L
Cargo Air Packing Instruction.....310

MATERIAL SAFETY DATA SHEET
North American Composites
300 Apollo Drive
Lino Lakes, MN 55014
24-Hour Emergency Telephone (800) 424-9300

333617e001
CHEM PRUF DOOR CO./BROWNSVIL
5224 FM 802
BROWNSVILLE, TX 78521

Issue Date: 2/9/2009

The Material Safety Data Sheet accompanying this cover page is for a compound supplied, not manufactured, By North American Composites. It complies with 29 CFR 1910.100.

Product Number	Product Description	
CPFMC450-38	GLASS, CHOPPED STRAND MAT 1.5 OZ X 38	E-GLASSFIBERROVING.pdf

 Dated: Jan.1, 2002

MATERIAL SAFETY DATA SHEET

1.MANUFACTURER'S INFORMATION:

1.1 Commercial name: GLASSFIBER ROVING

1.2 Producer : CHONGQING POLYCOMP INTERNATIONAL CORP.
Dadukou Dist Chongqing P. R . of CHINA

1.3 Usage : Industrial

1.4 Emergency Tephone:0086-23-89090557

2.IDENTIFICATION OF THE SUBSTANCE

2.1 Composition : Low Alkali, Borosilicate Glass fiber in an amorphous vitreous state, with an organic polymer size

2.2 Hazards : Non combustible solid

2.3 Harmful : None

2.4 Environmental effect: None

2.5 Others : CAS No65997-17-3

3.DANGERS IDENTIFICATION

3.1Security : Non hazardous material, according to EC legislation Reinforced fiber glass

3.2 Men's hazards : Long and repetitive exposure to dust with no mask may affect breath

4.FIRST AID

4.1 Inhalation : Not respirable

4.2 Ingestion : Rinse mouth with water

4.3 Eye : Wash with running water using eye bath or wash bottle

4.4 Skin : Wash, using warm water and mild soap.

5.FIRE FIGHTING PROCEDURES

5.1 Special fire and explosion data: Non combustible

5.2 Extinguishing media : Water (for packaging materials)

5.3 Special fire fighting procedures: None

5.4 Usual fire & explosion hazards : None

6.ACCIDENTAL RELEASE MEASURES

6.1 Individual protections: Avoid to breath dusts. wear a dust mask

6.2 Cleaning method : Dampen with water and sweep up

7.HANDLING AND STORAGE

7.1 Handling precautions: A simple dust mask may be useful in preventing any nose or throat irritation. When using chemicals, solvents or other volatile agents in processing of Easy gun into finished products, the respiratory protection and ventilation is recommended.

7.2 Storage precautions: Store in a dry place

8.SPECIAL PROTECTION INFORMATION

8.1Average value of exposure:10mg/m^3 of total dust, or 5mg/ m^3 of respirable dust

8.2 Protection

Respiratory protection : Wear a dust mask in case of high dust levels

Product: GLASSFIBER ROVING

14.TRANSPORTION

ROAD	SEA	AIR
RID/ADR/RTMDR		IMDG

OACI/IATA

Class.....

Group.....

Label ..... NO SPECIAL REGULATIONS

Code.....

Material(n°ONU)....

15.LEGAL INFORMATION

15.1 EEC Labels: Non dangerous goods and no labelling necessary according to 67/548/EEC

16.OTHER INFORMATION

This data sheet is made of 3 pages

This represents a complement to technical data sheets ,but does not replace them. Information given herein is based on our experience of this material .This information is given in good faith but no warranty, express or implied, is made. We advise our customers to make their own trials before use, in order for them to secure larger scale production results.

The user of this material should inform by transmitting this data sheet, persons that might get in touch with the material (use, storage, cleaning of the manufacturing tools)

Users should especially pay attention to the risks that could occur if the product was to be used for other applications than the ones for which it has been conceived.

This data sheet should not help the user from knowing and applying the legislation of his industrial field. It is only under his own responsibility to take all caution linked to the use of this material, which he knows.

APPENDIX E

LIMITED ASBESTOS INSPECTION FROM
THE STUDY TO DEMOLISH THE FIXED SERVICE STRUCTURE (FSS) AND ROTATING SERVICE STRUCTURE (RSS) AT COMPLEX 39B

JONES EDMUNDS

May 1, 2007

Mr. Scott Stilwell
Lead Design Engineer
National Aeronautics and Space Administration
Mail Code: TA-D1
Kennedy Space Center, FL 32899

RE: Limited Asbestos Inspection of the LC 39 B FSS and RSS
Jones Edmunds Project No. 14000-131-01

Dear Mr. Stilwell:

Jones, Edmunds & Associates, Inc. (Jones Edmunds) has completed a Limited Asbestos Survey of the LC 39 B Fixed Service Structure (FSS) and Rotating Service Structure (RSS) located at the Kennedy Space Center (KSC) in Florida. Inspection services have been performed in general accordance with the Asbestos Hazard Emergency Response Act (AHERA) of 1986, 15 U.S.C. s. 2601. This report has been prepared on behalf and for the exclusive use of NASA. Jones Edmunds services have been performed under mutually agreed upon terms and conditions.

The conclusions contained herein are based upon the data that was reviewed and documented in this report along with our experience on similar projects and NASA-KSC inspection reports maintained by Comprehensive Health Services, Inc. that were obtained from the Asbestos Management Information System (AMIS) also known as Facility Asbestos Management System (FAMS). This report should not be relied upon to represent site conditions on dates or locations other than those specifically cited within this report.

We appreciate the opportunity to have provided these services for your organization, and look forward to continuing to assist you with environmental issues.

Sincerely,.

Kim E. Rivera, P.E.
Environmental Engineer
Asbestos Inspector
Jones Edmunds & Associates, Inc.

cc: Doug Toth, P.E. /Jones Edmunds
Jennifer Hill, P.E. /Jones Edmunds
Thomas O. Murray C.I.H. /AEH&S
John Shaffer / NASA TA-C3

3910 South Washington Avenue
Suite 210
Titusville, FL 32780

321.269.2950 Phone
321.269.2951 Fax
www.jonesedmunds.com

LIMITED ASBESTOS INSPECTION FOR THE DEMOLITION OF THE LC 39 B FSS AND RSS AT JOHN F. KENNEDY SPACE CENTER, FLORIDA

Prepared for the Benefit of:

NASA
Kennedy Space Center, Florida

Prepared by:

JONES, EDMUNDS & ASSOCIATES, INC.
3910 S. Washington Ave, Suite 210
Titusville, Florida 32780

Jones Edmunds Project No. 14000-131-01

May 1, 2007

Jones Edmunds & Associates, Inc. (Jones Edmunds) takes no responsibility for information which was unobtainable, withheld, or misrepresented to the surveyors which can or would affect this inspection and abatement. Jones Edmunds has taken the information available through reasonable investigation and interpreted it with regard to the environmental laws currently in effect.

TABLE OF CONTENTS

1.0 INTRODUCTION

Jones, Edmunds & Associates, Inc. (Jones Edmunds) has completed a Limited Asbestos Inspection of the LC 39 B Fixed Service Structure (FSS) and Rotating Service Structure (RSS) located at the Kennedy Space Center (KSC) in Florida. Jones Edmunds maintains current certification by the State of Florida as an Asbestos Business Organization (# ZA-0000201). Our services were performed in general accordance with the Asbestos Hazard Emergency Response Act (AHERA) of 1986, 15 U.S.C. s. 2601. Our services were authorized by Scott Stilwell (NASA TA-D1). The project for which determination of Asbestos Containing Materials (ACM) was performed is the Demolition of the Fixed Service Structure and Rotating Service Structure at Complex 39B, NNK05EA40B/NNK06EA45D, and NASA PCN 98580.

Jones Edmunds was made aware that a limited asbestos inspection of LC 39B was previously performed. The survey results are now maintained within the Asbestos Management Information System (AMIS) also known as the Facility Asbestos Management System (FAMS) by Comprehensive Health Services (CHS) and are located on KSC's intranet at http://amis.ksc.nasa.gov.

A visual inspection of the FSS and RSS for materials that may contain asbestos was performed on May 11 and 12, 2006 by Ms. Jennifer Hill, P.E., an accredited AHERA inspector, management planner and project designer, Ms. Kim Rivera, P.E., an accredited AHERA inspector, and Mr. Thomas O. Murray, CIH, a State of Florida Licensed Asbestos Consultant (# IA-0000040). In order to ensure that materials that could potentially contain asbestos on the FSS and RSS were not overlooked, a list of assumed asbestos materials was complied after the visual walk-down. The list of potential asbestos materials also includes the number of samples required based on the estimated quantity of assumed material determined during the visual inspection. Using this list as guidance, the asbestos inspection was conducted on April 3, 9, and 10, 2007 by Ms. Rivera. Credentials for the Jones Edmunds staff are presented in Appendix A.

Potential asbestos containing material (PACM) on the LC 39 B FSS and RSS included but is not limited to carbon filter housing, fire foam surfacing material, pressure valve housing, caulking, pipe insulation, pipe wrap, wall paneling, joint compounds, coatings, gaskets, roofing material, vibration joints, electrical mastic, elevator housing, HVAC duct materials and HVAC duct mastic. These materials were grouped into homogeneous areas. Due to Foreign Object Debris (FOD) concerns and the fact that LC 39B is still an active launch pad, other materials that were assumed and not sampled are carbon filter housing, duct insulation, pressure valve housing, and vibration joints. A minimum of three samples were collected from the facility for each assessable homogeneous area by Jones Edmunds or visually confirmed to have been sampled in the past as presented on the AMIS survey. All samples were submitted to a National Voluntary Laboratory Accreditation Program (NAVLAP) accredited laboratory. Samples were analyzed by stereoscopic microscopy and polarized light microscopy (PLM) with dispersion staining. Credentials for the Laboratory are also presented in Appendix A.

The Jones Edmunds inspection, sampling and analysis determined asbestos to be present in the high pressure gaskets on the RSS and in caulking around windows. Asbestos was assumed in elevator housing, electrical panels and electrical wiring and tape. Samples were not collected of these materials due to electrical safety concerns. The list of assumed asbestos materials includes the complete list of materials that were sampled or assumed. The AMIS report indicated that asbestos was determined within the HVAC duct materials (caulk and mastic) on the RSS Payload Changeout Room (PCR) and pipe insulation on RSS Level 117. A summary of ACM is presented in Table 1. The list of all PACM is presented in Table 2. Results of the laboratory analyses are presented in Appendix B. Results for the AMIS asbestos surveys are presented in Appendix B as well.

Table 1 Summary of Asbestos Containing Material

LC 39 B FSS and RSS - Asbestos Results								
ROOM NUMBER	MATERIAL TYPE	ASBESTOS	FRIABLE	CONDITION	QUANTITY	UNIT	LOCATION	COMMENTS
RSS LEVEL 215	HIGH PRESSURE GASKET	YES	NO	GOOD	90	LF	HIGH PRESSURE PIPES	THIN, HARD GASKET
RSS MACHINE ROOM	MISCELLANEOUS MATERIAL (CAULK)	YES	NO	GOOD	50	LF	WINDOW	BLACK CAULKING AROUND WINDOWS
RSS PCR	DUCT/HVAC CAULK AND MASTIC	YES	YES	GOOD	10	SF	DUCT	AMIS REPORT / ACM FOUND DURING FIBERGLASS DUCT INSULATION REMOVAL
RSS LEVEL 117	PIPE INSULATION	YES	NO	GOOD	50	LF		AMIS REPORT / FIBERGLASS PIPE INSULATION
FSS AND RSS	ASSUMED ELECTRICAL CONTROL PANEL, WIRING AND TAPE	YES	NO	GOOD	188,500	LF	FSS AND RSS	ELECTRICAL CONTROL PANEL AND WIRING WRAP

Table 2 - Summary of Potential Asbestos Containing Material

Material	Code	Sampling Schedule	Notes
Asbestos Cement/Concrete	AC	Investigate	
Carbon Filter Housing	CF	Assume - never sample	Assumed
Caulking Material	CM		
Windows		**Sample now**	
Where metal meets concrete		**Sample now**	
Where structures meets pad		**Sample now**	
Corrugated & Flat Side Panels	CP	Investigate	may be transite
Duct Insulation	DI	Assume Now - Sample During Design	Assumed, required removal of metal covers
Elevator housing	EH	Assume Now - Sample During Design	may have sprayed on insulation
Brake shoes		Assume - never sample	Assumed
Equipment panels		Assume Now - Sample During Design	Assumed
top and bottom of shaft		Assume Now - Sample During Design	Assumed
rotating pulleys		Assume Now - Sample During Design	Assumed
Electrical Panels	EP	Assume Now - Sample During Design	Assumed - Safety Hazard
Electrical Wiring	EW		Assumed
Sheath between wire and head		Assume - never sample	Assumed
Fire Doors	FD		Will check for label, safety hazard
Core of door		Assume - never sample	Try to ID manufacturer
Fire Foam Surfacing Material	FF-SM	**Sample now**	
Gasket Material	G	**Sample now**	
Insulation	I-SM		
Fireproofing system		**Sample now**	
Spray-applied		**Sample now**	
Lightening Rod	LR	Investigate	Try to ID manufacturer
Lights	Light		Assumed
Transite housing		Assume - never sample	Assumed
Pressure Valve Housing	PV	Assume - never sample	Assumed
Pipe Wrap	PW	**Sample now**	
Pipe Insulation	PI		
corrugated air-cell		Assume Now - Sample During Design	
Roofing Material	RM	**Sample now**	Assumed
Tank/Boiler/Chiller Insulation	TI	Never Sample	
Transite Board	TB	Assume - never sample	
Valves/Elbows/Tees	VET	Assume Now - Sample During Design	
Vibration Joints	VJ		Assumed
Joint cloth		Assume Now - Sample During Design	Assumed destructive testing
Wall Paneling Insulation	WPI	**Sample now**	

2.0 ASBESTOS SURVEY PROCEDURES

The purpose of an asbestos inspection and/or survey is to identify PACM, and to document their condition and location. This survey was conducted by observing, touching, and evaluating the PACM of concern. A survey of non-PACM materials was not accomplished at this time.

3.0 ASBESTOS BULK SAMPLING AND ANALYSIS PROCEDURES

Bulk sampling procedures utilized for the collection of PACM first require the establishment of homogenous sampling areas. A homogenous sampling area is defined as an area of material of the same texture, type, color, etc. which was applied during the same general time period. The materials of concern identified in the facility were evaluated and grouped into homogenous categories for the purposes of this inspection and sampling.

Collected bulk samples were analyzed by stereoscopic microscopy and PLM coupled with dispersion staining. PLM is an Environmental Protection Agency (EPA) approved analytical method for asbestos identification that distinguishes the unique optical properties of mineral forms in the samples and specifically identifies the various asbestos types. This is the method of analysis recommended by EPA for asbestos identification in bulk samples.

PLM uses visual area estimation as an analytical technique, and is a quick, low cost quantitative analysis for asbestos in bulk materials. However, by using a visual-area estimation technique, a margin of error of +/- 10% is introduced into the final results. A technique called 'Point Counting' improves the quantitative analysis of asbestos in bulk samples and is now required by The National Emission Standards for Hazardous Air Pollutants (NESHAP) to be conducted on samples determined to contain less than 10% asbestos by PLM methods. Alternatively, materials determined by PLM to contain asbestos at levels equal to or greater than 10% can be assumed to be asbestos containing without Point Counting.

It is reasonable and customary within the industry to initially analyze bulk samples by PLM, and if any further verification is needed, to re-analyze the samples by the more exacting Point Count method. This approach generally suits the property owner by keeping costs low. If PLM analytical laboratory results indicate the amount of asbestos in a material to be less than 10%, the parties legally responsible for a building (owner or operator) may elect to assume the amount to be greater than 1% and treat the material as regulated ACM, or require verification analysis by point counting. If a result determined by point counting is different than a result determined by PLM, the point count result will prevail.

Materials identified during this survey that contained 10% asbestos include window caulking. The high pressure gaskets on the RSS PCR were determined to contain 25% asbestos. The electrical control panels and electrical wiring and tape have been assumed. Photographs of PACM sampled are presented in Appendix C.

4.0 ASBESTOS SAMPLING SUMMARY

Samples of suspect asbestos containing materials were taken on April 3, 9 and 10, 2007 by Ms. Kim Rivera. Collection of at least three samples of each homogeneous area is reasonable and customary during an asbestos inspection to confirm an asbestos finding. Jones Edmunds took samples from each homogeneous area and visually confirmed AMIS reports. Many of the common and ordinary materials were discovered to be similar on LC 39B, therefore like materials were classified together in there respective homogeneous areas.

Sampling locations, estimated quantities, friability and physical condition of the materials were documented in the field notes that are presented in Appendix B. Photos of these sampling locations are presented in Appendix C. Estimates of the quantity or condition of PACM are subject to readily observable site situations, and our findings reflect these restrictions. Jones Edmunds does warrant that our investigations and methodology reflect best effort, based upon prevailing standards of care in the environmental industry.

5.0 RECOMMENDATIONS AND CONCLUSIONS

There are five response options that can be used to control asbestos: (1) Operations and Maintenance, (2) Repair, (3) Encapsulation, (4) Enclosure and (5) Removal. The selection of a response option depends on the intended usage of the building and cost. Asbestos containing materials are classified under four categories per EPA 40 CFR Part 61:

Friable – materials that when dry, can be crumbled, pulverized, or reduced to powder by hand pressure.

Category I Nonfriable – packings, gaskets, resilient flooring, and asphalt roofing products with more than 1% asbestos.

Category II Nonfriable – any material excluding Category I nonfriable ACM with more than 1% asbestos.

Regulated Asbestos Containing Material (RACM) – (a) Friable asbestos material, (b) Category I nonfriable asbestos that has become friable, (c) Category I nonfriable ACM that will be or has been subject to sanding, cutting, grinding, or abrading, or (d) Category II nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to a powder.

Because the LC 39B FSS and RSS are to be demolished, demolition shall be in accordance with EPA NESHAP 40 CFR Part 61 and must comply with OSHA Construction Standards 29 CFR 1926.1101. Categories I and II nonfriable ACM do not need to be removed prior to demolition, provided that the material is not subject to sanding, cutting, grinding, or abrading or made friable by other means. All RACM shall be removed prior to demolition. RACM need not be removed prior to demolition if it was not accessible for testing and was, therefore, not discovered until after demolition began and as a result of the demolition, the material cannot be safely removed. The high pressure gaskets, window caulk and pipe insulation are not classified as RACM; therefore, they do not need to be removed prior to demolition. There was no regulated asbestos containing materials found during this survey, however, NASA-KSC policy states that all ACM must be abated prior to demolition.

Due to safety concerns electrical wiring and electrical paneling were not sampled to determine if asbestos was present. It is recommended to sample the suspect materials once electrical systems have been electrically locked and tagged out prior to demolition or assume Category II non-friable. Due to FOD concerns and the active launch status of LC 39B, other materials that were not sampled include but are not limited to carbon filter housing, duct insulation, pressure valve housing, and vibration joints. It is recommended to sample before demolition once LC 39 B is no longer active or assume Category II non-friable.

Prepared by:

Jones, Edmunds & Associates, Inc.

Kim E. Rivera, P.E.
Environmental Engineer
Asbestos Inspector

Reviewed by:

Applied Environmental Health and Safety, Inc.

Thomas O. Murray Date 4/25/07
State of Florida Licensed Asbestos Consultant
(IA0000040)

APPENDIX A

QUALIFICATIONS OF PERSONNEL AND LABORATORY

AC# 2342387

STATE OF FLORIDA

DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION
ASBESTOS LICENSING UNIT

SEQ# L05113001981

DATE	BATCH NUMBER	LICENSE NBR
11/30/2005	058026856	ZA0000201

The ASBESTOS BUSINESS ORGANIZATION
Named below IS LICENSED
Under the provisions of Chapter 469 FS.
Expiration date: NOV 30, 2007

JONES, EDMUNDS & ASSOCIATES INC
THOMAS O MURRAY
730 NE WALDO RD BLDG A
GAINESVILLE FL 32641

JEB BUSH
GOVERNOR

SIMONE MARSTILLER
SECRETARY

DISPLAY AS REQUIRED BY LAW

KSC DX 8355

STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION

ASBESTOS LICENSING UNIT
1940 NORTH MONROE STREET
TALLAHASSEE FL 32399-0783

(850) 487-1395

MURRAY, THOMAS O
1743 WIND DRIFT RD.
ORLANDO FL 32809

STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION

AC#2956379

IA0000040 11/16/06 068054323

ASBESTOS CNSLT - IND HYGIENIST
MURRAY, THOMAS O

IS LICENSED under the provisions of ch.469 FS.
Expiration date: NOV 30, 2008

DETACH HERE

AC#2956379

STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION
ASBESTOS LICENSING UNIT

SEQ#L06111601487

DATE	BATCH NUMBER	L-LICENSE NBR
11/16/2006	1068054323	IIA0000040

The ASBESTOS CONSULTANT
Named below IS LICENSED
Under the provisions of Chapter 469 FS.
Expiration date: NOV 30, 2008

MURRAY, THOMAS O
1743 WINDRIFT RD
ORLANDO FL 32809-6840

JEB BUSH
GOVERNOR

DISPLAY AS REQUIRED BY LAW

SIMONE MARSTILLER
SECRETARY

UNIVERSITY OF FLORIDA

TREEO CENTER

Center for Training, Research and Education for Environmental Occupations

certifies that

Kim E. Rivera

Jones Edmunds & Associates, Inc., 3910 S Washington Ave, Titusville FL 32780

Having passed a 25-question examination with a score of 70% or higher has successfully met certificate requirements for the

Asbestos Refresher: Inspector

FBPR Asbestos Licensing Unit: Provider #0000995; Course #FL49-0004731

(Reaccreditation for Inspector Under TSCA Title II/AHERA)

conducted

February 27, 2007

by the University of Florida

CERTIFICATE NUMBER
R070169-8332
CEUs: .4
EPA accreditation expires: February 27, 2008
65681

(352) 392-9570

Director

Principal Instructor: Brian J. DuChene, P.E.

454

University of Florida TREEO Center • 3900 SW 63rd Boulevard • Gainesville, FL 32608-3800 • www.treeo.ufl.edu

KSC DX 8355

455

KSC DX 8355

UNIVERSITY OF FLORIDA

TREEO CENTER

Center for Training, Research and Education for Environmental Occupations

certifies that

Jennifer M. Hill

Jones Edmunds & Associates, Inc., 3910 S. Washington Ave, Suite 210, Titusville FL 32780

Having passed a 25-question examination with a score of 70% or higher has successfully met certificate requirements for the

Asbestos Refresher: Inspector

FBPR Asbestos Licensing Unit: Provider #0000995; Course #FL49-0004731

(Reaccreditation for Inspector Under TSCA Title II/AHERA)

conducted

November 7, 2006

by the University of Florida

CERTIFICATE NUMBER
R060286-8257
CEUs: .4
EPA accreditation expires: November 7, 2007

Director

Principal Instructor: Brian J. DuChene, P.E.

(352) 392-9570

University of Florida TREEO Center • 3900 SW 63rd Boulevard • Gainesville, FL 32608-3800 • www.treeo.ufl.edu

United States Department of Commerce
National Institute of Standards and Technology

NVLAP®

Certificate of Accreditation to ISO/IEC 17025:1999

NVLAP LAB CODE: 101768-0

Carolina Environmental, Inc.

Cary, NC

is recognized by the National Voluntary Laboratory Accreditation Program for conformance with criteria set forth in NIST Handbook 150:2001 and all requirements of ISO/IEC 17025:1999.
Accreditation is granted for specific services. listed on the Scope of Accreditation, for:

BULK ASBESTOS FIBER ANALYSIS

2007-04-01 through 2008-03-31

Effective dates

Sally S. Bruce

For the National Institute of Standards and Technology

NVLAP-01C (REV 2005-05-19)

NVLAP® National Voluntary Laboratory Accreditation Program

SCOPE OF ACCREDITATION TO ISO/IEC 17025:1999

Carolina Environmental, Inc.
107 New Edition Court
Cary. NC 27511
Dr. Tianbao Bai
Phone: 919-481-1413 Fax: 919-481-1442
E-Mail: bai@ceilabs.com
URL: http://www.ceilabs.com

BULK ASBESTOS FIBER ANALYSIS (PLM) **NVLAP LAB CODE 101768-0**

NVLAP Code	*Designation / Description*
18/A01	EPA-600/M4-82-020: Interim Method for the Determination of Asbestos in Bulk Insulation Samples

2007-04-01 through 2008-03-31
Effective dates

Sally S. Bruce
For the National Institute of Standards and Technology

NVLAP-01S (REV. 2005-05-19)

APPENDIX B

ASBESTOS ANALYTICAL LABORATORY RESULTS, ASBESTOS INSPECTOR'S FIELD NOTES AND ASBESTOS RESULTS FROM AMIS

CAROLINA ENVIRONMENTAL, INC.
107 New Edition Court, Cary, NC 27511
Phone: (919) 481-1413 Fax: (919) 481-1442

LABORATORY REPORT
ASBESTOS BULK ANALYSIS

Client: **Jones, Edmunds & Associates, Inc.**
3910 S. Washington Ave Suite 210
Titusville , FL 32780

Project: 14000-131-01

CEI Lab Code: A07-2936
Received: 04-13-07
Analyzed: 04-17-07
Reported: 04-17-07
Analyst: Kari Wasmer

The following definitions apply to the abbreviations used in the ASBESTOS BULK ANALYSIS REPORT:

CHRY = Chrysotile	CELL = Cellulose	DEBR = Debris
AMOS = Amosite	FBGL = Fibrous Glass	BIND = Binder
CROC = Crocidolite	ORGN = Organics	SILI = Silicates
TREM = Tremolite	SYNT = Synthetics	GRAV = Gravel
ANTH = Anthophyllite	WOLL = Wollastonite	MAST = Mastic
ACTN = Actinolite	CERWL = Ceramic Wool	PLAS = Plaster
N D = None Detected	NTREM = Non-Asbestiform Tremolite	PERL = Perlite
NANTH = Non-Asbestiform Anthophyllite		RUBR = Rubber

Stereoscopic microscopy and polarized light microscopy coupled with dispersion staining is the analytical technique used for sample identification. The percentage of each component is visually estimated by volume. These results pertain only to the samples analyzed. The samples were analyzed as submitted by the client and may not be representative of the larger material in question. Unless notified in writing to return samples, Carolina Environmental, Inc. will discard all bulk samples after 30 days.

Many vinyl floor tiles have been manufactured using greater than 1% asbestos. Often the asbestos was milled to a fiber size below the detection limit of polarized light microscopy. Therefore, a "None Detected" (ND) reading on vinyl floor tile does not necessarily exclude the presence of asbestos. Transmission electron microscopy provides a more conclusive form of analysis for vinyl floor tiles.

It is certified by the signature below that Carolina Environmental, Inc. is accredited by the National Voluntary Accreditation Program (NVLAP) for the analysis of asbestos in bulk materials. The accredited test method is EPA / 600 / M4-82 / 020 for the analysis of asbestos in building materials. Procedures described in EPA / 600 / R-93 / 116 have been incorporated where applicable. The detection limit for the method is 0.1% (trace amount). Carolina Environmental, Inc.'s NVLAP accreditation number is #101768-0. This report is not to be used to claim product endorsement by NVLAP or any agency of the U. S. Government. This report and its contents are only valid when reproduced in full. Dust and soil analyses for asbestos using PLM are not covered under NVLAP accreditation.

ANALYST Kari Wasmer
Kari Wasmer

REVIEWED BY Tianbao Bai
Tianbao Bai, Ph.D.
Laboratory Director

459

CAROLINA ENVIRONMENTAL, INC.
107 New Edition Court, Cary, NC 27511
Phone: 919-481-1413 Fax:: 919-481-1442

Project: 14000-131-01

Lab Code: A07-2936

CLIENT ID	CEI LAB ID	HOMOGENEITY DESCRIPTION				% ASBESTOS
CAULK-G1	A592609	CAULK				ND
	Heterogeneous,	Grey, Fibrous, Bound				
		CAULK	90 %	SYNT	10 %	
PW-1	A592610	PIPE WRAP				ND
	Heterogeneous,	Grey, Off-white, Fibrous, Bound				
		FOAM	75 %	CELL	20 %	
				FBGL	5 %	
PW-2	A592611	PIPE WRAP				ND
	Heterogeneous,	Grey, Off-white, Fibrous, Bound				
		FOAM	65 %	CELL	20 %	
		BIND	10 %	FBGL	5 %	
				WOLL	<1 %	
PW-3	A592612	PIPE WRAP				ND
	Heterogeneous,	Grey, Off-white, Fibrous, Bound				
		FOAM	65 %	CELL	20 %	
		BIND	10 %	FBGL	5 %	
				WOLL	<1 %	
CAULK-J2	A592613	CAULKING				ND
	Heterogeneous,	Off-white, Fibrous, Bound				
		CAULK	100 %	CELL	<1 %	
PW-E1	A592614	PIPE WRAP				ND
	Heterogeneous,	Silver, Fibrous, Bound				
		BIND	20 %	CELL	65 %	
		FOIL	15 %			
PW-H1	A592615	PIPE WRAP				ND
	Heterogeneous,	Off-white, Fibrous, Bound				
		VINYL	90 %	CELL	<1 %	
		MAST	10 %			

460

CAROLINA ENVIRONMENTAL, INC.
107 New Edition Court, Cary, NC 27511
Phone: 919-481-1413 Fax: : 919-481-1442

Project: 14000-131-01

Lab Code: A07-2936

CLIENT ID	CEI LAB ID	HOMOGENEITY DESCRIPTION	% ASBESTOS
GASKET-1	A592616	GASKET Heterogeneous, Black, Non-fibrous, Bound RUBR 95 % PAINT 5 %	ND
GASKET-2	A592617	GASKET Heterogeneous, Black, Non-fibrous, Bound RUBR 95 % PAINT 5 %	ND
GASKET-H1	A592618	GASKET Heterogeneous, Black, Fibrous, Bound CHRY 25% BIND 60 % CELL 10 % PAINT 5 %	CHRY 25%
CAULK-1	A592619	CAULK Heterogeneous, Off-white, Fibrous, Bound CAULK 75 % CELL 5 % FOAM 20 %	ND
CAULK-2	A592620	CAULK Heterogeneous, Off-white, Fibrous, Bound CAULK 75 % CELL 5 % FOAM 20 %	ND
CAULK-3	A592621	CAULK Heterogeneous, Off-white, Fibrous, Bound CAULK 75 % CELL 5 % FOAM 20 %	ND
CAULK-J1	A592622	CAULK Heterogeneous, Grey, Off-white, Fibrous, Bound CAULK 100 % CELL <1 %	ND

CAROLINA ENVIRONMENTAL, INC.
107 New Edition Court, Cary, NC 27511
Phone: 919-481-1413 Fax: : 919-481-1442

Project: 14000-131-01

Lab Code: A07-2936

CLIENT ID	CEI LAB ID	HOMOGENEITY DESCRIPTION	% ASBESTOS
CAULK-B1	A592623	CAULK Heterogeneous, Clear, Fibrous, Bound CAULK 100 % CELL <1 %	ND
CAULK-D1	A592624	CAULK Heterogeneous, Off-white, Fibrous, Bound CAULK 95 % CELL <1 % PAINT 5 %	ND
CAULK-P1	A592625	CAULK Heterogeneous, Clear, Fibrous, Bound CAULK 95 % CELL <1 % PAINT 5 %	ND
HAND-1	A592626	CAULK Heterogeneous, Grey, Fibrous, Bound CAULK 100 % CELL <1 %	ND
HAND-2	A592627	CAULK Heterogeneous, Grey, Fibrous, Bound CAULK 100 % CELL <1 %	ND
CAULK-W1	A592628	CAULK Heterogeneous, Black, Fibrous, Bound CHRY 10% CAULK 85 % CELL 5 %	CHRY 10%
MASTIC-1	A592629	MASTIC Heterogeneous, Off-white, Non-fibrous, Bound MAST 100 %	ND

CAROLINA ENVIRONMENTAL, INC.
107 New Edition Court, Cary, NC 27511
Phone: 919-481-1413 Fax: : 919-481-1442

Project: 14000-131-01

Lab Code: A07-2936

CLIENT ID	CEI LAB ID	HOMOGENEITY DESCRIPTION	% ASBESTOS
MASTIC-2	A592630	MASTIC	ND
	Heterogeneous,	Off-white, Non-fibrous, Bound	
		MAST 95 %	
		PAINT 5 %	
FI&M-1	A592631	FOAM AND MASTIC	ND
	Heterogeneous,	Off-white, Yellow, Non-fibrous, Bound	
		MAST 50 %	
		FOAM 50 %	
FI&M-2	A592632	FOAM AND MASTIC	ND
	Heterogeneous,	Off-white, Yellow, Non-fibrous, Bound	
		MAST 50 %	
		FOAM 50 %	
FI-1	A592633	FOAM AND PAINT	ND
	Heterogeneous,	Off-white, Black, Non-fibrous, Bound	
		PAINT 25 %	
		FOAM 65 %	
		MAST 10 %	
FI-2	A592634	FOAM AND PAINT	ND
	Heterogeneous,	Off-white, Black, Non-fibrous, Bound	
		PAINT 10 %	
		FOAM 90 %	
PW-E2	A592635	PIPE WRAP	ND
	Heterogeneous,	Silver, Fibrous, Bound	
		FOIL 70 % FBGL 20 %	
		MAST 10 %	
PW&FI-1	A592636	PIPE WRAP/ FOAM	ND
	Heterogeneous,	Off-white, Black, Fibrous, Bound	
		PAINT 40 % FBGL 10 %	
		FOAM 50 %	

CAROLINA ENVIRONMENTAL, INC.
107 New Edition Court, Cary, NC 27511
Phone: 919-481-1413 Fax: : 919-481-1442

Project: 14000-131-01

Lab Code: A07-2936

CLIENT ID	CEI LAB ID	HOMOGENEITY DESCRIPTION	% ASBESTOS
PW-OT1	A592637	PIPE WRAP/ FOAM Heterogeneous, Red, Black, Fibrous, Bound FOAM 70 % FBGL 25 % VINYL 5 %	ND
PW-C1	A592638	PIPE CAP Heterogeneous, Yellow, Grey, Fibrous, Bound FOAM 95 % PAINT 5 %	ND
PW-W1	A592639	PIPE WRAP Heterogeneous, Black, Fibrous, Bound BIND 5 % CELL 95 %	ND
FI-3	A592640	FOAM Heterogeneous, Yellow, Non-fibrous, Bound FOAM 100 %	ND
FI-4	A592641	FOAM Heterogeneous, Yellow, Non-fibrous, Bound FOAM 100 %	ND
FI-5	A592642	FOAM Heterogeneous, Yellow, Grey, Non-fibrous, Bound FOAM 95 % PLAS 5 %	ND
FI-6	A592643	FOAM Heterogeneous, Yellow, Non-fibrous, Bound FOAM 100 %	ND

464

CAROLINA ENVIRONMENTAL, INC.
107 New Edition Court, Cary, NC 27511
Phone: 919-481-1413 Fax: 919-481-1442

Project: 14000-131-01

Lab Code: A07-2936

CLIENT ID	CEI LAB ID	HOMOGENEITY DESCRIPTION	% ASBESTOS
FI-7	A592644	FOAM Heterogeneous, Yellow, Fibrous, Bound FOAM 85 % FBGL 5 % VINYL 10 %	ND
PW-P1	A592645	PIPE WRAP Heterogeneous, Black, Non-fibrous, Bound FOAM 95 % PLAS 5 %	ND
PW-P2	A592646	PIPE WRAP Heterogeneous, Black, Non-fibrous, Bound FOAM 100 %	ND
PW-P3	A592647	PIPE WRAP Heterogeneous, Black, Off-white, Non-fibrous, Bound FOAM 95 % PAINT 5 %	ND
PW-P4	A592648	PIPE WRAP Heterogeneous, Black, Grey, Non-fibrous, Bound FOAM 90 % PAINT 10 %	ND
PW-P5	A592649	PIPE WRAP Heterogeneous, Black, Non-fibrous, Bound TAR 100 %	ND

CAROLINA ENVIRONMENTAL, INC.
107 New Edition Court, Cary, NC 27511
Tel: 866-481-1412; Fax: 919-481-1442

CHAIN OF CUSTODY RECORD
ASBESTOS/LEAD ANALYSIS

KSC DX 83 55

Client: Jones Edmunds	Project Manager: Kim Rivera
Address: 3910 S. Washington Ave Suite 210	Phone: 321-269-2950
Titusville, FL 32780	Fax: 321-269-2951
EMail: KRivera@JonesEdmunds.com	
PO #: 140000-131-01	

PROJECT DESCRIPTION	PROJECT CODE	ASBESTOS: PLM Bulk	ASBESTOS: PLM Point Count	ASBESTOS: PLM Gravimetric	ASBESTOS: PCM Air	ASBESTOS: TEM Bulk*	ASBESTOS: TEM Air*	LEAD PAINT: Lead Paint*	LEAD PAINT: Lead Wipe*	LEAD PAINT: Lead Soil*	LEAD PAINT: Lead Air*	Other Analysis*
RSS 115' Level (gray at pipe)	Caulk - G1	X										
FSS 155' Level (LO_2 pipe)	PW - 1	X										
FSS 155' Level (LO_2 pipe)	PW - 2	X										
FSS 155' Level (LO_2 Pipe)	PW - 3	X										
RSS at PCR joints	Caulk - J2	X										
FSS electrical Pipe Wrap	PW - E1	X										
FSS High-pressure Gas PW	PW - H1	X										
FSS 215' Level (gasket)	Gasket - 1	X										
RSS 155' Level (gasket)	Gasket - 2	X										
RSS 215' Level (High Pressure gasket)	Gasket - H1	X										

TURN-AROUND TIME
* Lead and TEM results require 48 Hour TAT or longer

- ☐ 5 DAYS
- ☐ 3 DAYS
- ☒ 48 HOURS
- ☐ 24 HOURS*
- ☐ 4 HOURS*

CLIENT ID#

REMARKS:
Please email results to Krivera@jonesedmunds.com.

- ☐ Accept Samples
- ☐ Reject Samples

Samples will be disposed of 30 days after analysis, unless otherwise requested.

Relinquished By:	Date / Time:	Received By:	Date / Time:
Kimberly Rivera	4-11-07 10 AM		
Relinquished By:	Date / Time:	Received By:	Date / Time:

CEI FORM #200-1 VERSION 2006-1

CAROLINA ENVIRONMENTAL, INC.

107 New Edition Court, Cary, NC 27511
Tel: 866-481-1412; Fax: 919-481-1442

CHAIN OF CUSTODY RECORD
ASBESTOS/LEAD ANALYSIS

Client: Jones Edmunds	**Project Manager:** Kim Rivera
Address: 3910 S. Washington Ave, Suite 210	**Phone:** 321-269-2950
Titusville, FL 32780	**Fax:** 321-269-2951
EMail: KRivera@jonesedmunds.com	
PO #: 14000-131-01	

PROJECT DESCRIPTION	PROJECT CODE	ASBESTOS: PLM Bulk	PLM Point Count	PLM Gravimetric	PCM Air	TEM Bulk*	TEM Air*	LEAD PAINT: Lead Paint*	Lead Wipe*	Lead Soil*	Lead Air*	Other Analysis
FSS at Pad surface	Caulk-1	X										
FSS at Pad surface	Caulk-2	X										
FSS at Pad Surface	Caulk-3	X										
RSS at PCR joints	Caulk-J[redacted]1	X										
RSS at PCR bolts	Caulk-B1	X										
RSS evacuation / door	Caulk-D1	X										
RSS 120' Level (pipe)	Caulk-P1	X										
FSS 95' Level (handrail)	Hand-1	X										
FSS 95' Level (handrail)	Hand-2	X										
RSS machine room (window)	Caulk-W1	X										

TURN-AROUND TIME

*Lead and TEM results require 48 Hour TAT or longer

- ☐ 5 DAYS
- ☐ 3 DAYS
- ☒ 48 HOURS
- ☐ 24 HOURS*
- ☐ 4 HOURS*

CLIENT ID#

REMARKS:
Please email results to krivera@jonesedmunds.com.

- ☐ Accept Samples
- ☐ Reject Samples

Samples will be disposed of 30 days after analysis, unless otherwise requested.

Relinquished By:	Date / Time:	Received By:	Date / Time:
Kim Rivera	4-11-07 10AM		
Relinquished By:	Date / Time:	Received By:	Date / Time:

467

KSC DX 8855

CAROLINA ENVIRONMENTAL, INC.
107 New Edition Court, Cary, NC 27511
Tel: 866-481-1412; Fax: 919-481-1442

CHAIN OF CUSTODY RECORD
ASBESTOS/LEAD ANALYSIS

Client: Jones Edmunds	Project Manager: Kim Rivera
Address: 3910 S. Washington Ave, Suite 210	Phone: 321-269-2950
Titusville, FL 32780	Fax: 321-269-2951
EMail: KRivera@jonesedmunds.com	
PO #: 14000-131-01	

PROJECT DESCRIPTION	PROJECT CODE	ASBESTOS: PLM Bulk	ASBESTOS: PLM Point Count	ASBESTOS: PLM Gravimetric	ASBESTOS: PCM Air	ASBESTOS: TEM Bulk*	ASBESTOS: TEM Air*	LEAD PAINT: Lead Paint*	LEAD PAINT: Lead Wipe*	LEAD PAINT: Lead Soil*	LEAD PAINT: Lead Air*	Other Analysis
RSS 125' Level	Mastic-1	X										
RSS 207' Level	Mastic-2	X										
FSS ET ARM	FI&M-1	X										
FSS ET ARM	FI&M-2	X										
RSS Patch rack	FI-1	X										
RSS Patch rack	FI-2	X										
RSS 215' Level electrical PW	PW-E2	X										
RSS 135' Level PW+FI	PW&FI-1	X										
FSS PW + orange thread cover	PW-OT1	X										
RSS 135' Level PW cap	PW-C1	X										

TURN-AROUND TIME
** Lead and TEM results require 48 Hour TAT or longer*

- ☐ 5 DAYS
- ☐ 3 DAYS
- ☒ 48 HOURS
- ☐ 24 HOURS*
- ☐ 4 HOURS*

CLIENT ID#

REMARKS:
Please email results to krivera@jonesedmunds.com.

- ☐ Accept Samples
- ☐ Reject Samples

Samples will be disposed of 30 days after analysis, unless otherwise requested.

Relinquished By:	Date / Time:	Received By:	Date / Time:
Kim Rivera	4-11-07 10 AM		
Relinquished By:	Date / Time:	Received By:	Date / Time:

CEI FORM #200-1 VERSION 2006-1

KSC DX 8355

CAROLINA ENVIRONMENTAL, INC.
107 New Edition Court, Cary, NC 27511
Tel: 866-481-1412; Fax: 919-481-1442

CHAIN OF CUSTODY RECORD
ASBESTOS/LEAD ANALYSIS

Client: Jones Edmunds	Project Manager: Kim Rivera
Address: 3910 S. Washington Ave., Suite 210	Phone: 321-269-2950
Titusville, FL 32780	Fax: 321-269-2951
EMail: krivera@jonesedmunds.com	
PO #: 14000-131-01	

PROJECT DESCRIPTION	PROJECT CODE	ASBESTOS: PLM Bulk*	ASBESTOS: PLM Point Count	ASBESTOS: PLM Gravimetric	ASBESTOS: PCM Air	ASBESTOS: TEM Bulk*	ASBESTOS: TEM Air*	LEAD PAINT: Lead Paint*	LEAD PAINT: Lead Wipe*	LEAD PAINT: Lead Soil*	LEAD PAINT: Lead Air*	Other Analysis*
RSS 215' level (PW @ water)	PW-W1	X										
RSS Machine room	FI-3	X										
RSS [redacted] (PCR room)	FI-4	X										
RSS 155' level	FI-5	X										
RSS 135' Level (orange)	FI-6	X										
RSS 135' Level (next to PCR cap)	FI-7	X										
RSS PCR room	PW-P1	X										
RSS Patch rack pipe	PW-P2	X										
RSS Patch rack white pipe	PW-P3	X										
RSS gray paint pipe	PW-P4	X										

TURN-AROUND TIME
** Lead and TEM results require 48 Hour TAT or longer*

- ☐ 5 DAYS
- ☐ 3 DAYS
- ☒ 48 HOURS
- ☐ 24 HOURS*
- ☐ 4 HOURS*

CLIENT ID#

REMARKS:
Please email results to krivera@jonesedmunds.com.

- ☐ Accept Samples
- ☐ Reject Samples

Samples will be disposed of 30 days after analysis, unless otherwise requested.

Relinquished By:	Date / Time:	Received By:	Date / Time:
Kim D'Ro Rivera	4-11-07 10 AM		
Relinquished By:	Date / Time:	Received By:	Date / Time:

KSC TX 8355

CAROLINA ENVIRONMENTAL, INC.
107 New Edition Court, Cary, NC 27511
Tel: 866-481-1412; Fax: 919-481-1442

CHAIN OF CUSTODY RECORD
ASBESTOS/LEAD ANALYSIS

4270

KSC DX 83555

Client: Jones Edmunds	Project Manager: Kim Rivera
Address: 3910 S. Washington Ave., Suite 210	Phone: 321-269-2950
Titusville, FL 32780	Fax: 321-269-2951
EMail: Krivera@jonesedmunds.com	
PO #: 14000-131-01	

PROJECT DESCRIPTION	PROJECT CODE	ASBESTOS: PLM Buk	PLM Point Count	PLM Gravimetric	PCM Air	TEM Buk*	TEM Air*	LEAD PAINT: Lead Paint*	Lead Wipe*	Lead Soil*	Lead Air*	Other Analysis
RSS 125' Levee PW	PW-P5	X										

TURN-AROUND TIME
* Lead and TEM results require 48 Hour TAT or longer

- ☐ 5 DAYS
- ☐ 3 DAYS
- ☐ 48 HOURS
- ☐ 24 HOURS*
- ☐ 4 HOURS*

CLIENT ID#

REMARKS:
Please email results to Krivera@jonesedmundscom

- ☐ Accept Samples
- ☐ Reject Samples

Samples will be disposed of 30 days after analysis, unless otherwise requested.

Relinquished By:	Date / Time:	Received By:	Date / Time:
Kim Rivera	4-11-07 10 AM		
Relinquished By:	Date / Time:	Received By:	Date / Time:

ASBESTOS SAMPLE FORM

PROJECT NAME Demolish Pad B RSS and FSS Project #: 14000-131-01

INSPECTOR Kim Rivera; Javier Du Quesne

Project Date: March 3, 9 and 10, 2007 Report Date: May 1, 2007

Inspection Location: FSS at Pad Surface

Sample Location: Pad Surface under FSS Est. Quantity: 50 LF

Homogeneous Area No.: 1 Sample No.: Caulk - 1, Caulk - 2, Caulk - 3

Material Type: Caulking and insulation

Description Caulking – nonfriable, insulation – friable

% Asbestos: N/A Type Asb.: N/A

Asbestos Response Priority:

Present Condition

Poor (Sign. Damage) >10%	Fair (Damaged) 0-10%	Good (Undamaged) 0%

Friable? ☒ yes or ☒ no

SKETCH / PHOTOGRAPH NO.:

Photo 1, Photo 2

KSC DX 8355

ASBESTOS SAMPLE FORM

PROJECT NAME Demolish Pad B RSS and FSS Project #: 14000-131-01

INSPECTOR Kim Rivera; Javier Du Quesne

Project Date: March 3, 9 and 10, 2007 Report Date: May 1, 2007

Inspection Location: RSS at PCR

Sample Location: PCR Joints Est. Quantity: 250 LF

Homogeneous Area No.: 2 Sample No.: Caulk - J1, Caulk - J2

Material Type: Caulk

Description White caulking at joints

% Asbestos: N/A Type Asb.: N/A

Asbestos Response Priority:

Present Condition

Poor (Sign. Damage) >10%	Fair (Damaged) 0-10%	Good (Undamaged) 0%

Friable? ☐ yes or ☒ no

SKETCH / PHOTOGRAPH NO.:

Photo 10, Photo 15

ASBESTOS SAMPLE FORM

PROJECT NAME Demolish Pad B RSS and FSS Project #: 14000-131-01

INSPECTOR Kim Rivera; Javier Du Quesne

Project Date: March 3, 9 and 10, 2007 Report Date: May 1, 2007

Inspection Location: RSS at PCR

Sample Location: PCR Bolts Est. Quantity: 100 LF

Homogeneous Area No.: 2 Sample No.: Caulk - B1

Material Type: Caulk

Description Clear caulking at bolts

% Asbestos: N/A Type Asb.: N/A

Asbestos Response Priority:

Present Condition

Poor (Sign. Damage) >10%	Fair (Damaged) 0-10%	Good (Undamaged) 0%

Friable? ☐ yes or ☒ no

SKETCH / PHOTOGRAPH NO.:

Photo 15

ASBESTOS SAMPLE FORM

PROJECT NAME Demolish Pad B RSS and FSS Project #: 14000-131-01

INSPECTOR Kim Rivera; Javier Du Quesne

Project Date: March 3, 9 and 10, 2007 Report Date: May 1, 2007

Inspection Location: RSS Doors on Evacuation Route

Sample Location: RSS Doors Est. Quantity: 200 LF

Homogeneous Area No.: 2 Sample No.: Caulk -D1

Material Type: Caulk

Description White caulking at doors

% Asbestos: N/A Type Asb.: N/A

Asbestos Response Priority:

Present Condition

Poor (Sign. Damage) >10%	Fair (Damaged) 0-10%	Good (Undamaged) 0%

Friable? ☐ yes or ☒ no

SKETCH / PHOTOGRAPH NO.:

Photo 11

ASBESTOS SAMPLE FORM

PROJECT NAME Demolish Pad B RSS and FSS Project #: 14000-131-01

INSPECTOR Kim Rivera; Javier Du Quesne

Project Date: March 3, 9 and 10, 2007 Report Date: May 1, 2007

Inspection Location: RSS Level 120

Sample Location: RSS pipe Est. Quantity: 50 SF

Homogeneous Area No.: 2 Sample No.: Caulk –P1

Material Type: Caulk

Description White caulking at pipe penetrations

% Asbestos: N/A Type Asb.: N/A

Asbestos Response Priority:

Present Condition

Poor (Sign. Damage) >10%	Fair (Damaged) 0-10%	Good (Undamaged) 0%

Friable? ☐ yes or ☒ no

SKETCH / PHOTOGRAPH NO.:

Similar to Photo 18

KSC DX 8355

ASBESTOS SAMPLE FORM

PROJECT NAME Demolish Pad B RSS and FSS Project #: 14000-131-01

INSPECTOR Kim Rivera; Javier Du Quesne

Project Date: March 3, 9 and 10, 2007 Report Date: May 1, 2007

Inspection Location: RSS Mechanical Room

Sample Location: RSS Windows Est. Quantity: 50 LF

Homogeneous Area No.: 2 Sample No.: Caulk –W1

Material Type: Black Caulk

Description Black caulking at window

% Asbestos: 10% Type Asb.: Chrysotile

Asbestos Response Priority:

Present Condition

Poor (Sign. Damage) >10%	Fair (Damaged) 0-10%	Good (Undamaged) 0%

Friable? ☐ yes or ☒ no

SKETCH / PHOTOGRAPH NO.:

Photo 21

ASBESTOS SAMPLE FORM

PROJECT NAME Demolish Pad B RSS and FSS Project #: 14000-131-01

INSPECTOR Kim Rivera; Javier Du Quesne

Project Date: March 3, 9 and 10, 2007 Report Date: May 1, 2007

Inspection Location: FSS Level 95

Sample Location: Handrail Est. Quantity: 50 sf

Homogeneous Area No.: 3 Sample No.: Hand - 1, Hand - 2

Material Type: Rubber on handrail

Description Rubber pipe wrap on handrail

% Asbestos: N/A Type Asb.: N/A

Asbestos Response Priority:

Present Condition

Poor (Sign. Damage) >10%	Fair (Damaged) 0-10%	Good (Undamaged) 0%

Friable? ☐ yes or ☒ no

SKETCH / PHOTOGRAPH NO.:

Photo 3

ASBESTOS SAMPLE FORM

PROJECT NAME Demolish Pad B RSS and FSS Project #: 14000-131-01

INSPECTOR Kim Rivera; Javier Du Quesne

Project Date: March 3, 9 and 10, 2007 Report Date: May 1, 2007

Inspection Location: RSS Level 125

Sample Location: RSS Level 125 Est. Quantity: 25 SF

Homogeneous Area No.: 4 Sample No.: Mastic - 1, Mastic - 2

Material Type: Mastic

Description Mastic - 1: gray mastic on wall penetration on back wall. Mastic - 2: gray mastic on pipe penetration.

% Asbestos: N/A Type Asb.: N/A

Asbestos Response Priority:

Present Condition

Poor (Sign. Damage) >10%	Fair (Damaged) 0-10%	Good (Undamaged) 0%

Friable? ☐ yes or ☒ no

SKETCH / PHOTOGRAPH NO.:

Photo 25

ASBESTOS SAMPLE FORM

PROJECT NAME Demolish Pad B RSS and FSS Project #: 14000-131-01

INSPECTOR Kim Rivera; Javier Du Quesne

Project Date: March 3, 9 and 10, 2007 Report Date: May 1, 2007

Inspection Location: FSS ET Arm

Sample Location: FSS ET Arm Est. Quantity: 100 SF

Homogeneous Area No.: 5 Sample No.: FM & M - 1, FM & M - 2

Material Type: Foam insulation and mastic

Description Foam insulation and mastic

% Asbestos: N/A Type Asb.: N/A

Asbestos Response Priority:

Present Condition

Poor (Sign. Damage) >10%	Fair (Damaged) 0-10%	Good (Undamaged) 0%

Friable? [X] yes or [ ] no

SKETCH / PHOTOGRAPH NO.:

Photo 6, Photo 7

KSC DX 8355

ASBESTOS SAMPLE FORM

PROJECT NAME Demolish Pad B RSS and FSS Project #: 14000-131-01

INSPECTOR Kim Rivera; Javier Du Quesne

Project Date: March 3, 9 and 10, 2007 Report Date: May 1, 2007

Inspection Location: FSS ET Arm

Sample Location: FSS ET Arm Est. Quantity: 300 LF

Homogeneous Area No.: 6 Sample No.: PW – OT1

Material Type: Pipe wrap and foam insulation

Description Orange pipe wrap and foam insulation

% Asbestos: N/A Type Asb.: N/A

Asbestos Response Priority:

Present Condition

Poor (Sign. Damage) >10%	Fair (Damaged) 0-10%	Good (Undamaged) 0%

Friable? [X] yes or [ ] no

SKETCH / PHOTOGRAPH NO.:

Photo 8

ASBESTOS SAMPLE FORM

PROJECT NAME Demolish Pad B RSS and FSS Project #: 14000-131-01

INSPECTOR Kim Rivera; Javier Du Quesne

Project Date: March 3, 9 and 10, 2007 Report Date: May 1, 2007

Inspection Location: RSS Level 130

Sample Location: RSS Patch Rack Est. Quantity: 50 SF

Homogeneous Area No.: 7 Sample No.: FI - 1, FI - 2

Material Type: Foam insulation

Description Black foam insulation

% Asbestos: N/A Type Asb.: N/A

Asbestos Response Priority:

Present Condition

Poor (Sign. Damage) >10%	Fair (Damaged) 0-10%	Good (Undamaged) 0%

Friable? ☒ yes or ☐ no

SKETCH / PHOTOGRAPH NO.:

Photo 23

KSC DX 8355

ASBESTOS SAMPLE FORM

PROJECT NAME Demolish Pad B RSS and FSS Project #: 14000-131-01

INSPECTOR Kim Rivera; Javier Du Quesne

Project Date: March 3, 9 and 10, 2007 Report Date: May 1, 2007

Inspection Location: RSS Level 215

Sample Location: RSS Level 215 Est. Quantity: 10,300 LF

Homogeneous Area No.: 8 Sample No.: PW - E1, PW - E2

Material Type: Pipe Wrap

Description Pipe wrap on electrical lines

% Asbestos: N/A Type Asb.: N/A

Asbestos Response Priority:

Present Condition

Poor (Sign. Damage) >10%	Fair (Damaged) 0-10%	Good (Undamaged) 0%

Friable? ☐ yes or ☒ no

SKETCH / PHOTOGRAPH NO.:

Photo 17

ASBESTOS SAMPLE FORM

PROJECT NAME Demolish Pad B RSS and FSS Project #: 14000-131-01

INSPECTOR Kim Rivera; Javier Du Quesne

Project Date: March 3, 9 and 10, 2007 Report Date: May 1, 2007

Inspection Location: RSS Level 135

Sample Location: RSS Level 135 Est. Quantity: 100 LF

Homogeneous Area No.: 9 Sample No.: PW & FI - 1

Material Type: Pipe Wrap and Foam Insulation

Description Pipe wrap and foam insulation

% Asbestos: N/A Type Asb.: N/A

Asbestos Response Priority:

Present Condition

Poor (Sign. Damage) >10%	Fair (Damaged) 0-10%	Good (Undamaged) 0%

Friable? [X] yes or [ ] no

SKETCH / PHOTOGRAPH NO.:

Photo 14

KSC DX 8355

ASBESTOS SAMPLE FORM

PROJECT NAME Demolish Pad B RSS and FSS Project #: 14000-131-01

INSPECTOR Kim Rivera; Javier Du Quesne

Project Date: March 3, 9 and 10, 2007 Report Date: May 1, 2007

Inspection Location: RSS Level 135

Sample Location: RSS Level 135 Est. Quantity: 10 LF

Homogeneous Area No.: 10 Sample No.: PW - C1

Material Type: Pipe Wrap

Description Pipe wrap at Cap

% Asbestos: N/A Type Asb.: N/A

Asbestos Response Priority:

Present Condition

Poor (Sign. Damage) >10%	Fair (Damaged) 0-10%	Good (Undamaged) 0%

Friable? [X] yes or [ ] no

SKETCH / PHOTOGRAPH NO.:

Photo 22

ASBESTOS SAMPLE FORM

PROJECT NAME Demolish Pad B RSS and FSS Project #: 14000-131-01

INSPECTOR Kim Rivera; Javier Du Quesne

Project Date: March 3, 9 and 10, 2007 Report Date: May 1, 2007

Inspection Location: RSS Level 215

Sample Location: RSS Level 215 Est. Quantity: 25 LF

Homogeneous Area No.: 11 Sample No.: PW - W1

Material Type: Pipe Wrap

Description Pipe wrap on water lines/valves/fittings

% Asbestos: N/A Type Asb.: N/A

Asbestos Response Priority:

Present Condition

Poor (Sign. Damage) >10%	Fair (Damaged) 0-10%	Good (Undamaged) 0%

Friable? ☐ yes or ☒ no

SKETCH / PHOTOGRAPH NO.:

Photo 16

ASBESTOS SAMPLE FORM

PROJECT NAME Demolish Pad B RSS and FSS Project #: 14000-131-01

INSPECTOR Kim Rivera; Javier Du Quesne

Project Date: March 3, 9 and 10, 2007 Report Date: May 1, 2007

Inspection Location: RSS Mechanical Room

Sample Location: RSS Mechanical Room Est. Quantity: 10 SF

Homogeneous Area No.: 12 Sample No.: FI - 3

Material Type: Foam insulation

Description Foam insulation

% Asbestos: N/A Type Asb.: N/A

Asbestos Response Priority:

Present Condition

Poor (Sign. Damage) >10%	Fair (Damaged) 0-10%	Good (Undamaged) 0%

Friable? ☒ yes or ☐ no

SKETCH / PHOTOGRAPH NO.:

Photo 20

ASBESTOS SAMPLE FORM

PROJECT NAME Demolish Pad B RSS and FSS Project #: 14000-131-01

INSPECTOR Kim Rivera; Javier Du Quesne

Project Date: March 3, 9 and 10, 2007 Report Date: May 1, 2007

Inspection Location: RSS PCR

Sample Location: RSS PCR Est. Quantity: 10 SF

Homogeneous Area No.: 13 Sample No.: FI - 4

Material Type: Foam insulation

Description Foam insulation

% Asbestos: N/A Type Asb.: N/A

Asbestos Response Priority:

Present Condition

Poor (Sign. Damage) >10%	Fair (Damaged) 0-10%	Good (Undamaged) 0%

Friable? [X] yes or [ ] no

SKETCH / PHOTOGRAPH NO.:

Similar to Photo 20

KSC DX 8355

ASBESTOS SAMPLE FORM

PROJECT NAME Demolish Pad B RSS and FSS Project #: 14000-131-01

INSPECTOR Kim Rivera; Javier Du Quesne

Project Date: March 3, 9 and 10, 2007 Report Date: May 1, 2007

Inspection Location: RSS Level 155

Sample Location: RSS Level 155 Est. Quantity: 10 SF

Homogeneous Area No.: 14 Sample No.: FI - 5

Material Type: Foam insulation

Description Foam insulation

% Asbestos: N/A Type Asb.: N/A

Asbestos Response Priority:

Present Condition

Poor (Sign. Damage) >10%	Fair (Damaged) 0-10%	Good (Undamaged) 0%

Friable? ☐ yes or ☐ no

SKETCH / PHOTOGRAPH NO.:

Similar to Photo 26

ASBESTOS SAMPLE FORM

PROJECT NAME Demolish Pad B RSS and FSS Project #: 14000-131-01

INSPECTOR Kim Rivera; Javier Du Quesne

Project Date: March 3, 9 and 10, 2007 Report Date: May 1, 2007

Inspection Location: RSS Level 135

Sample Location: RSS Level 135 Est. Quantity: 10 SF

Homogeneous Area No.: 15 Sample No.: FI - 6, FI - 7

Material Type: Foam insulation

Description Orange foam insulation

% Asbestos: N/A Type Asb.: N/A

Asbestos Response Priority:

Present Condition

Poor (Sign. Damage) >10%	Fair (Damaged) 0-10%	Good (Undamaged) 0%

Friable? ☒ yes or ☐ no

SKETCH / PHOTOGRAPH NO.:

Photo 26

ASBESTOS SAMPLE FORM

PROJECT NAME Demolish Pad B RSS and FSS Project #: 14000-131-01

INSPECTOR Kim Rivera; Javier Du Quesne

Project Date: March 3, 9 and 10, 2007 Report Date: May 1, 2007

Inspection Location: RSS PCR

Sample Location: RSS PCR Est. Quantity: 10 LF

Homogeneous Area No.: 16 Sample No.: PW - P1

Material Type: Pipe Wrap

Description Pipe wrap on PCR

% Asbestos: N/A Type Asb.: N/A

Asbestos Response Priority:

Present Condition

Poor (Sign. Damage) >10%	Fair (Damaged) 0-10%	Good (Undamaged) 0%

Friable? ☐ yes or ☒ no

SKETCH / PHOTOGRAPH NO.:

Similar to Photo 18

ASBESTOS SAMPLE FORM

PROJECT NAME Demolish Pad B RSS and FSS Project #: 14000-131-01

INSPECTOR Kim Rivera; Javier Du Quesne

Project Date: March 3, 9 and 10, 2007 Report Date: May 1, 2007

Inspection Location: RSS Patch Rack

Sample Location: RSS Patch Rack Est. Quantity: 50 LF

Homogeneous Area No.: 16 Sample No.: PW - P2, PW - P3, PW - P4

Material Type: Pipe Wrap

Description Black pipe wrap on white pipe, gray pipe and patch rack pipe

% Asbestos: N/A Type Asb.: N/A

Asbestos Response Priority:

Present Condition

Poor (Sign. Damage) >10%	Fair (Damaged) 0-10%	Good (Undamaged) 0%

Friable? ☐ yes or ☒ no

SKETCH / PHOTOGRAPH NO.:

Photo 23, 24, 25

KSC DX 8355

ASBESTOS SAMPLE FORM

PROJECT NAME Demolish Pad B RSS and FSS Project #: 14000-131-01

INSPECTOR Kim Rivera; Javier Du Quesne

Project Date: March 3, 9 and 10, 2007 Report Date: May 1, 2007

Inspection Location: RSS Level 125

Sample Location: RSS Level 125 Est. Quantity: 10 LF

Homogeneous Area No.: 16 Sample No.: PW - P5

Material Type: Pipe Wrap

Description Black pipe wrap on white pipe

% Asbestos: N/A Type Asb.: N/A

Asbestos Response Priority:

Present Condition

Poor (Sign. Damage) >10%	Fair (Damaged) 0-10%	Good (Undamaged) 0%

Friable? ☐ yes or ☒ no

SKETCH / PHOTOGRAPH NO.:

Similar to Photo 13

ASBESTOS SAMPLE FORM

PROJECT NAME Demolish Pad B RSS and FSS Project #: 14000-131-01

INSPECTOR Kim Rivera; Javier Du Quesne

Project Date: March 3, 9 and 10, 2007 Report Date: May 1, 2007

Inspection Location: RSS Level 115

Sample Location: RSS Level 115 Est. Quantity: 10 SF

Homogeneous Area No.: 17 Sample No.: Caulk - G1

Material Type: Caulk

Description Gray caulk on pipe penetration

% Asbestos: N/A Type Asb.: N/A

Asbestos Response Priority:

Present Condition

Poor (Sign. Damage) >10%	Fair (Damaged) 0-10%	Good (Undamaged) 0%

Friable? ☐ yes or ☒ no

SKETCH / PHOTOGRAPH NO.:

Photo 25

KSC DX 8355

ASBESTOS SAMPLE FORM

PROJECT NAME Demolish Pad B RSS and FSS Project #: 14000-131-01

INSPECTOR Kim Rivera; Javier Du Quesne

Project Date: March 3, 9 and 10, 2007 Report Date: May 1, 2007

Inspection Location: FSS Level 155

Sample Location: FSS Level 155 Est. Quantity: 100 LF

Homogeneous Area No.: 18 Sample No.: PW - 1, PW - 2, PW - 3

Material Type: Pipe wrap and Insulation

Description White pipe wrap and black insulation on LO2 pipe

% Asbestos: N/A Type Asb.: N/A

Asbestos Response Priority:

Present Condition

Poor (Sign. Damage) >10%	Fair (Damaged) 0-10%	Good (Undamaged) 0%

Friable? ☐ yes or ☒ no

SKETCH / PHOTOGRAPH NO.:

Photo 4

ASBESTOS SAMPLE FORM

PROJECT NAME Demolish Pad B RSS and FSS Project #: 14000-131-01

INSPECTOR Kim Rivera; Javier Du Quesne

Project Date: March 3, 9 and 10, 2007 Report Date: May 1, 2007

Inspection Location: FSS Level 155

Sample Location: FSS Level 155 Est. Quantity: 20 LF

Homogeneous Area No.: 19 Sample No.: PW - H1

Material Type: Pipe wrap

Description Pipe wrap on high pressure gas line

% Asbestos: N/A Type Asb.: N/A

Asbestos Response Priority:

Present Condition

Poor (Sign. Damage) >10%	Fair (Damaged) 0-10%	Good (Undamaged) 0%

Friable? ☐ yes or ☒ no

SKETCH / PHOTOGRAPH NO.:

Similar to Photo 4

KSC DX 8355

ASBESTOS SAMPLE FORM

PROJECT NAME Demolish Pad B RSS and FSS Project #: 14000-131-01

INSPECTOR Kim Rivera; Javier Du Quesne

Project Date: March 3, 9 and 10, 2007 Report Date: May 1, 2007

Inspection Location: FSS Level 215

Sample Location: FSS Level 215 Est. Quantity: 20 LF

Homogeneous Area No.: 20 Sample No.: Gasket - 1

Material Type: Gasket

Description Black rubber gasket

% Asbestos: N/A Type Asb.: N/A

Asbestos Response Priority:

Present Condition

Poor (Sign. Damage) >10%	Fair (Damaged) 0-10%	Good (Undamaged) 0%

Friable? ☐ yes or ☒ no

SKETCH / PHOTOGRAPH NO.:

Photo 5

ASBESTOS SAMPLE FORM

PROJECT NAME Demolish Pad B RSS and FSS Project #: 14000-131-01

INSPECTOR Kim Rivera; Javier Du Quesne

Project Date: March 3, 9 and 10, 2007 Report Date: May 1, 2007

Inspection Location: FSS Level 155

Sample Location: FSS Level 155 Est. Quantity: 20 LF

Homogeneous Area No.: 20 Sample No.: Gasket - 2

Material Type: Gasket

Description Black rubber gaskets

% Asbestos: N/A Type Asb.: N/A

Asbestos Response Priority:

Present Condition

Poor (Sign. Damage) >10%	Fair (Damaged) 0-10%	Good (Undamaged) 0%

Friable? ☐ yes or ☒ no

SKETCH / PHOTOGRAPH NO.:

Photo 12

KSC DX 8355

ASBESTOS SAMPLE FORM

PROJECT NAME Demolish Pad B RSS and FSS Project #: 14000-131-01

INSPECTOR Kim Rivera; Javier Du Quesne

Project Date: March 3, 9 and 10, 2007 Report Date: May 1, 2007

Inspection Location: RSS Level 215

Sample Location: RSS Level 215 (PCR) Est. Quantity: 10 LF

Homogeneous Area No.: 20 Sample No.: Gasket - H1

Material Type: Gasket

Description Hard, thin gasket on high pressure lines

% Asbestos: 25% Type Asb.: Chrysotile

Asbestos Response Priority:

Present Condition

Poor (Sign. Damage) >10%	Fair (Damaged) 0-10%	Good (Undamaged) 0%

Friable? ☐ yes or ☒ no

SKETCH / PHOTOGRAPH NO.:

Photo 19

KSC DX 8355

Room Summary

Facility: J7-0337, LAUNCH PAD 39B

4/28/2006 10:21:58 AM

Room Number	ACM Present	Hazard Rating	Recommended Action	Comments
101 MENS ROOM	Yes	11.19	No action required.	The walls are concrete covered with ceramic tile. The floors are ceramic tile. There is NO SUSPECT ACM located in this room.
101A, HALLWAY	N/A	No hazard detected.	No action required.	The floor, ceiling and the walls are concrete. This has NO SUSPECT ASBESTOS containing materials.
101B, MENS R.RM.	N/A	No hazard detected.	No action required.	The floor, ceiling and the walls are concrete. This room has NO SUSPECT ASBESTOS containing materials.
101C, MENS SHOWER	N/A	No hazard detected.	No action required.	The walls and the floor are ceramic tile. The ceiling is concrete. THIS ROOM CONTAINS NO SUSPECT MATERIALS.
101D JANITOR	Yes	8.99	Repair and clean-up	The floor, ceiling and the walls are constructed of concrete.
103 STORAGE	Yes	7.98	Planned removal	The floor, ceiling and walls 2 & 3 are constructed of concrete.
103A BK/UP HYDROLIC	Yes	No hazard detected.	No action required.	Wals 1,2,and floor are metal. Wall 3, the floor and the ceiling are conicrete.
103B HALLWAY	Yes	9.33	Periodic monitoring	The floor, ceiling and the walls are constructed of concrete.
103C PCTR ENTRY	Yes	8.49	Repair and clean-up	The floor, ceiling and the walls are constructed of concrete. T
104, STORAGE RM	Yes	11.19	No action required.	WALLS AND CEILING ARE CONCRETE WITH NO OTHER TREATMENT THAN PAINT.
105 RIGGING	Yes	8.82	Repair and clean-up	*
105 STORAGE	Yes	No hazard detected.	No action required.	WALLS FLOORS CEILING ARE CONCRETE WITH NO SURFACE TREATMENT OTHER THAN PAINT.
106, STORAGE	Yes	7.48	Planned removal	Walls 2 & 3 are constructed of concrete.
107 MECHANICAL RM	Yes	7.98	Planned removal	None
109 HVAC EQUIP RM	Yes	No Assessment Data		The floor, ceiling and the walls are constructed of concrete.
201 JANITOR		No hazard		The walls, floor and the ceiling are constructed of

499

CLOSET	No	detected.	No action required.	concrete.
201A, MENS ROOM	No	No hazard detected.	No action required.	The walls and ceiling are concrete.
202 LFAC STRUCTURES	Yes	No hazard detected.	No action required.	The ceiling, walls 3 and 4 are constructed of concrete.
203	Yes	6.63	Removal ASAP	The ceiling and wall 3 are concrete. T". Handfulls of remnant material were located beneath the raised floor on the west side of the room.
204	Yes	6.13	Removal ASAP	The ceiling and walls 3-4 are constructed of concrete.
205 COMPUTER	Yes	6.12	Removal ASAP	The ceiling and wall 3 are constructed of concrete.
206	Yes	5.45	Immediate removal	The ceiling is concrete with remnant Spray Applied Insulation located around ceiling fixtures.
207	Yes	5.62	Immediate removal	The ceiling is constructed of concrete.
208, COMPUTER ROOM	Yes	5.96	Immediate removal	The ceiling and wall 3 are constructed of concrete.
209/210 COMPUTER RM	Yes	6.63	Removal ASAP	The ceiling and wall 3 are concrete. Visible debris was identified during the survey, this debris was cleaned up by the BOC abatement crew.
210A, OFFICE-STORAGE	Yes	5.79	Immediate removal	The ceiling and walls 3-4 are constructed of concrete
211 VAULT	Yes	7.81	Planned removal	The ceiling and walls 2-3 are constructed of concrete.
212	Yes	No hazard detected.	No action required.	WALL 3 AND THE CEILING ARE CONSTRUCTED OF CONCRETE WITH NO TREATMENT OTHER THAN PAINT.
213	Yes	No hazard detected.	No action required.	WALL 2 CONCRETE. CEILING CONCRETE
215	Yes	6.63	Removal ASAP	*
216 LOSC ELECTRIC	Yes	No hazard detected.	No action required.	The ceiling, above the ceiling tile is concrete and walls 2 & 3 are also concrete.
217 MECH	Yes	6.8	Removal ASAP	The floor, ceiling and the walls are constructed of concrete.
218 LADIES RESTROOM	Yes	9.33	Periodic monitoring	The ceiling and the walls are constructed of concrete.
219 STORAGE	Yes	7.65	Planned removal	The ceiling and wall 4 are constructed of concrete.
220	Yes	6.46	Removal ASAP	The ceiling and wall 3 are constructed of concret
221, CONTROL ROOM	Yes	7.31	Planned removal	".

KSC DX 8355

2ND FLR SOUTH HALL	Yes	6.63	Removal ASAP	The ceiling is concrete. Spray applied debris appears to be contamination from adjacent areas during installation.
2ND NORTH HALL	Yes	No hazard detected.	No action required.	CEILING, W1 & W2 ARE CONCRETE.
BATHROOM PLENUM	Yes	7.47	Planned removal	The Plenum was accessed from the Janitors Closet. The ceiling and walls are concrete. The floor is wire lathe and rough plaster.
BATTERY RM 1ST FL	Yes	No hazard detected.	No action required.	CONCRETE.
BOILER RM, EXTERIOR	Yes	8.15	Repair and clean-up	The floor, ceiling and the walls are concrete.
catacomb	Yes	No hazard detected.	No action required.	None
CELL 1	N/A	No hazard detected.	No action required.	This area has NO SUSPECT MATERIAL. The floor, ceiling and the walls are concrete.
CELL 2	N/A	No hazard detected.	No action required.	This room has NO SUSPECT MATERIALS. The floor, walls and the ceiling are concrete.
CROSSOVER TUNNEL	N/A	No hazard detected.	No action required.	NO SUSPECT MATERIALS
ELECTRICAL VAULT	No	No hazard detected.	No action required.	Electrical Vault at the PTCR
ext.ptcr	No	No hazard detected.	No action required.	*
FlameTrench	Yes	11.19	No action required.	*
FSS LVL 195	No	No hazard detected.	No action required.	THIS PIPE IS BETWEEN TWO METAL COVERED HEATER CYLINDERS. NORTH SIDE OF ELEVATOR 20'
HIGH PRESURE GAS AREA	N/A	No hazard detected.	No action required.	The floor, ceiling and the walls are concrete. This area is a high pressure gas area. There are NO SUSPECT MATERIALS in this area.
MAIN 2ND FL HALL	Yes	6.63	Removal ASAP	The ceiling is concrete.
OXY RECEIVE AREA	Yes	No hazard detected.	No action required.	*
PCR	Yes	11.19	No action required.	Non-specific samples of ceiling materials in the Payload Changeout Room. Samples collected and analyzed per engineering request prior to area modifications.
RSS LVL 117	Yes	No hazard detected.	No action required.	*

501

KSC DX 8355

AMIS Home

Asbestos survey questions or emergencies?
Contact
CHS Environmental Health, 867-2400

502

KSC DX 8355

Room Details

4/28/2006 10:27:26 AM

Room:	ext.ptcr
Facility:	J7-0337
Facility Description:	LAUNCH PAD 39B
Date of Inspection:	7/13/2001
Inspectors:	RAP
Room Dimensions:	None specified
Primary Door (Grid From):	N/A
Hazard Rating:	No hazard detected
Recommended Action:	No action required
Comments:	*

Homogenous Materials

ID	Material Type	Asbestos	Friable	Condition	Qty	Unit	Grids Affected	Comments
MO02	Miscellaneous Material (Other)	No	No	Good	50	SF	N/A	None

AMIS Home

Asbestos survey questions or emergencies?
Contact
CHS Environmental Health, 867-2400

503

KSC DX 8355

Room Details

4/28/2006 10:27:36 AM

Room: FSS LVL 195
Facility: J7-0337
Facility Description: LAUNCH PAD 39B

Date of Inspection: 11/18/1998
Inspectors: RAP
Room Dimensions: None specified
Primary Door (Grid From): N/A
Hazard Rating: No hazard detected
Recommended Action: No action required
Comments: THIS PIPE IS BETWEEN TWO METAL COVERED HEATER CYLINDERS. NORTH SIDE OF ELEVATOR 20'

Homogenous Materials

ID	Material Type	Asbestos	Friable	Condition	Qty	Unit	Grids Affected	Comments
DC04	Duct/HVAC Materials (Caulk, mastic)	No	No	Damaged	4	LF	C (4)	None
DG02	Duct/HVAC Materials (Gasket)	No	No	Good	2	SF	C (4)	None
PF14	Pipe Insulation, Straight (Fiberglass)	No	Yes	Good	20	LF	F/C 2	METAL WRAPPED HEATER CYLINDER
PG01	Pipe Insulation, Straight (Glass, Foam)	No	Yes	Good	20	LF	F/C 2	HEATER PIPE TO BE REMOVED DURING UPCOMING PROJECT

AMIS Home

Asbestos survey questions or emergencies?
Contact
CHS Environmental Health, 867-2400

504

KSC DX 8355

Room Details

4/28/2006 10:27:53 AM

Room: PCR
Facility: J7-0337
Facility Description: LAUNCH PAD 39B

Date of Inspection: 6/23/1998
Inspectors: RAP
Room Dimensions: None specified
Primary Door (Grid From): N/A
Hazard Rating: 11.19
Recommended Action: No action required
Comments: Non-specific samples of ceiling materials in the Payload Changeout Room. Samples collected and analyzed per engineering request prior to area modifications.

Homogenous Materials

ID	Material Type	Asbestos	Friable	Condition	Qty	Unit	Grids Affected	Comments
CJ01	Ceiling Materials (Spackle/Joint Compound)	No	No	Good	0	N/A	N/A	Material quantity and condition was not specified on data sheet.
DC01	Duct/HVAC Materials (Caulk, mastic)	No	No	Good	0	N/A	N/A	Material quantity and condition was not specified on data sheet.
DC02	Duct/HVAC Materials (Caulk, mastic)	Yes	Yes	Good	10	SF	N/A	Material found during fiberglass duct insulation removal.
DF02	Duct/HVAC Materials (Fiberglass)	No	No	Good	0	N/A	N/A	Material quantity and condition was not specified on data sheet.

AMIS Home

Asbestos survey questions or emergencies?
Contact
CHS Environmental Health, 867-2400

505

KSC DA 8355

Room Details

4/28/2006 10:28:02 AM

Room:	RSS LVL 117
Facility:	J7-0337
Facility Description:	LAUNCH PAD 39B
Date of Inspection:	5/2/1994
Inspectors:	EGG, EGG
Room Dimensions:	None specified
Primary Door (Grid From):	N/A
Hazard Rating:	No hazard detected
Recommended Action:	No action required
Comments:	*

Homogenous Materials

ID	Material Type	Asbestos	Friable	Condition	Qty	Unit	Grids Affected	Comments
PF13	Pipe Insulation, Straight (Fiberglass)	Yes	No	Good	50	LF	N/A	None

AMIS Home

Asbestos survey questions or emergencies?
Contact
CHS Environmental Health, 867-2400

506

APPENDIX C

PHOTOGRAPHS

Photo 1 - Caulk on Pad Surface under FSS

Photo 2 - Caulk on Pad Surface under FSS

Photo 3 - Handrail at FSS Level 95

Photo 4 - Pipe Wrap and Insulation at FSS Level 155

Photo 5 - Gasket on FSS Level 215

Photo 6 - Foam Insulation on FSS Level 255 – ET Arm

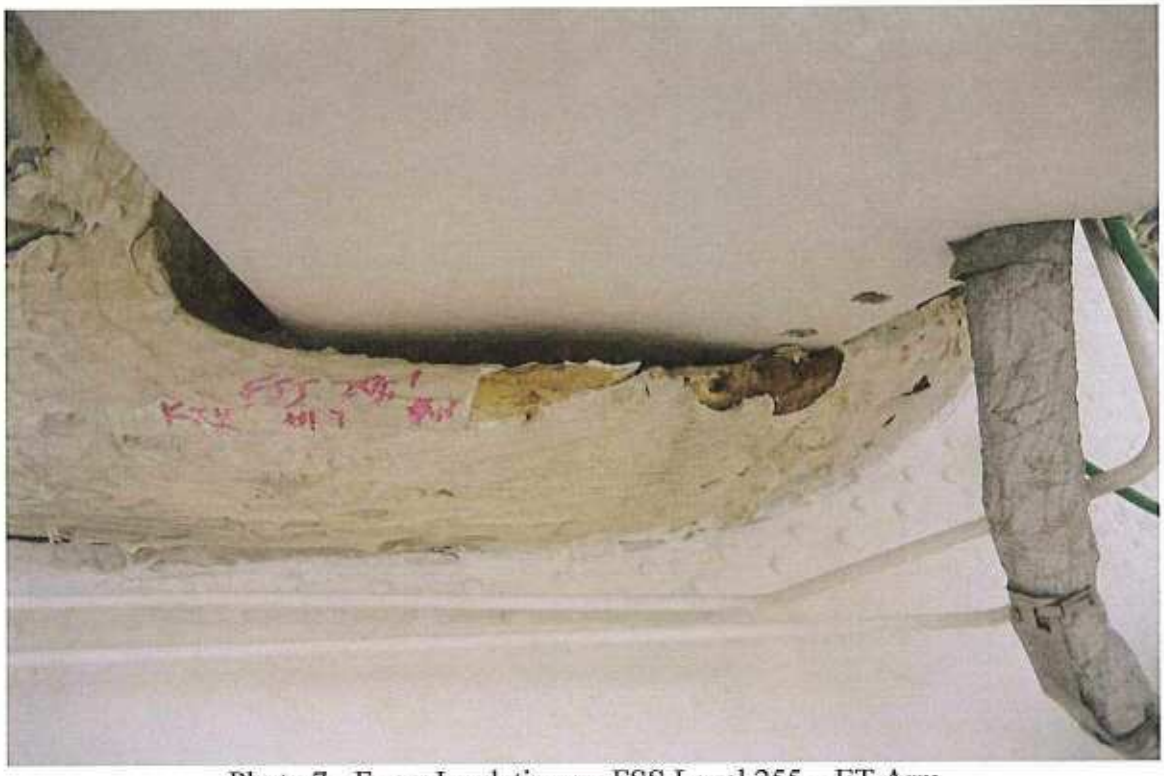


Photo 7 - Foam Insulation on FSS Level 255 – ET Arm

Photo 8 - Pipe Wrap and Insulation on FSS Level 255 – ET Arm

Photo 9 - Electrical Pipe Wrap on FSS Level 275

Photo 10 - Caulk at Joints on RSS PCR Mechanical Room

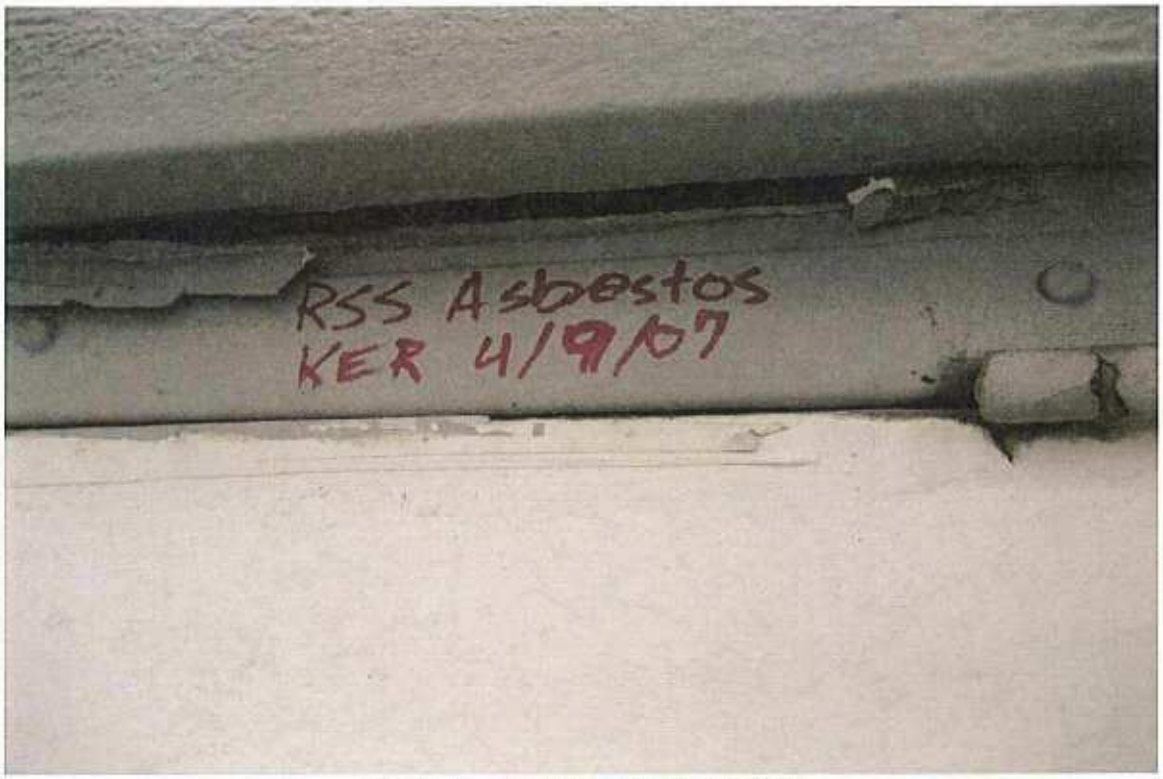


Photo 11 - Caulk at Doors on RSS

Photo 12 - Gaskets on RSS Level 155

Photo 13 - Pipe Wrap at RSS Level 155

Photo 14 - Foam Insulation at RSS Level 140

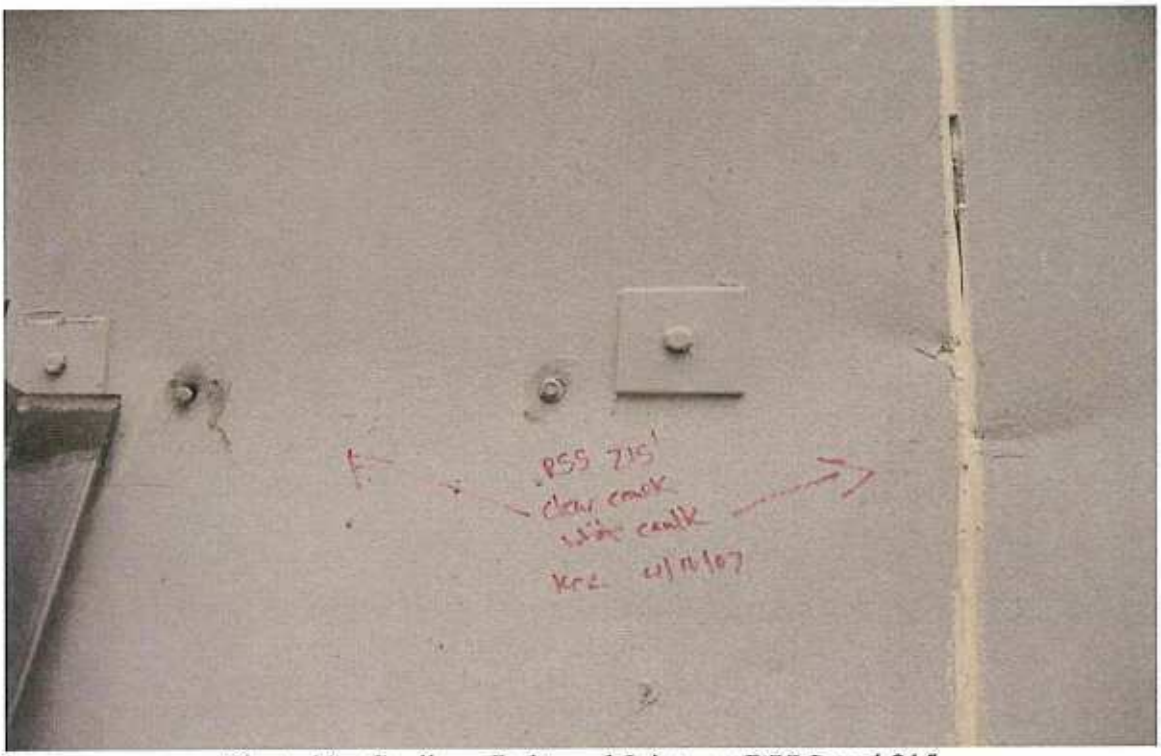


Photo 15 - Caulk on Bolts and Joints on RSS Level 215

Photo 16 - Pipe Wrap on RSS Level 215

Photo 17 - Electrical Pipe Wrap on RSS Level 215

Photo 18 - Pipe Insulation on RSS Level 215

Photo 19 - Gasket on High Pressure Line on RSS PCR*

Photo 20 - Foam Insulation on RSS Mechanical Room

Photo 21 - Caulk on Window at RSS Mechanical Room*

Photo 22 - Pipe Insulation and Foam Insulation at RSS

Photo 23 - Pipe Wrap at RSS Patch Room

Photo 24 - Pipe Wrap at RSS Patch Room

Photo 25 - Gray Pipe Insulation at RSS

Photo 26 – Foam Insulation on RSS

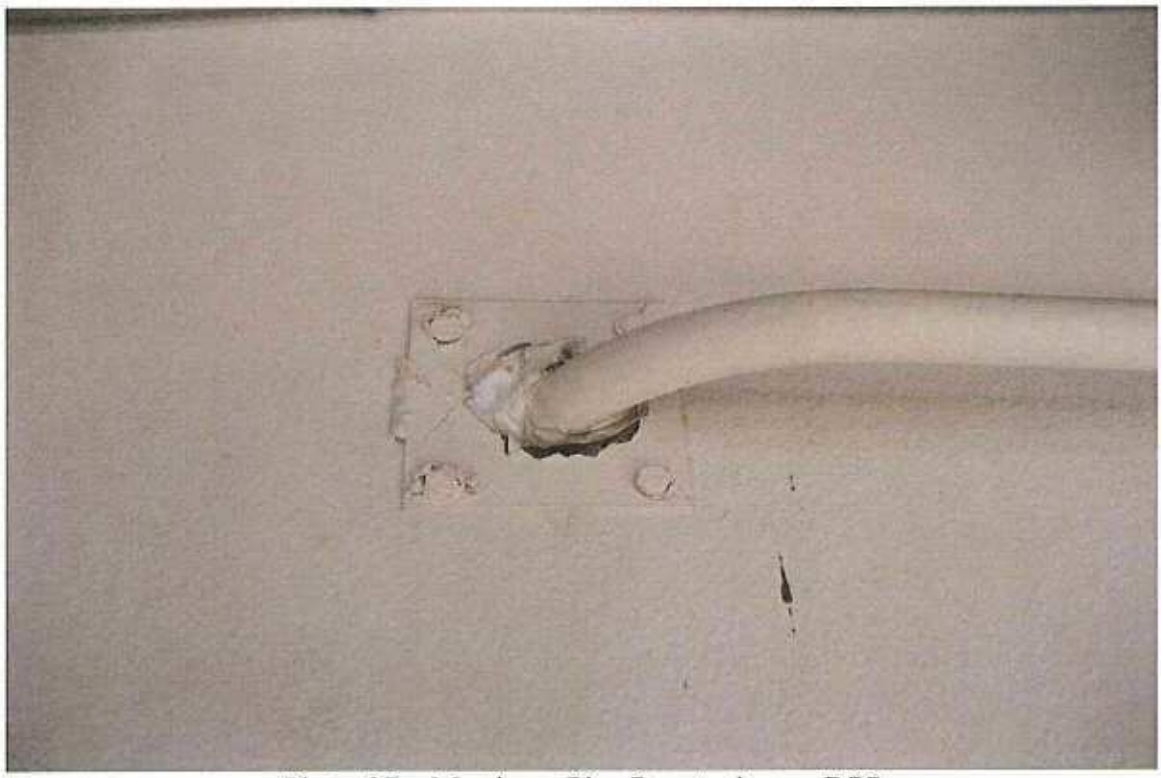


Photo 27 – Mastic on Pipe Penetration on RSS

*Materials found to contain Asbestos